

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA
MIAMI DIVISION

Case No. 1:22-cv-24066-KMM

GRACE, INC., *et al.*,

Plaintiffs,

v.

CITY OF MIAMI,

Defendant.

EXPERT REPORT OF DR. BRYANT MOY

[02/10/2023]



Racially Polarized Voting in Miami, Florida

Bryant J. Moy, PhD

February 10, 2023

1 Executive Summary

In this report, I examine past election data from the City of Miami, Florida, to determine whether and the extent to which racially polarized voting exists. Racially polarized voting (RPV) exists if minority voters systematically prefer one candidate and the majority ethnic group preferences another. I examine twenty elections between 2017 to 2021. Of the twenty elections, six were endogenous citywide elections, and fourteen were exogenous elections from the federal, county, or state levels. I conclude the following:

- Racially polarized voting exists in ten of the twenty elections studied.
- For endogenous (municipal) elections, two of six exhibited signs of racially polarized voting. In those contests, the Latino-preferred candidate prevailed over the Anglo-preferred candidate.
- For exogenous elections, eight of the fourteen exhibited signs of racially polarized voting. In five of those eight contests, the Latino-preferred candidate won, blocking either the Anglo-preferred candidate, the Black-preferred candidate or both.
- The Latino-preferred candidate won the majority of polarized races at 70% (7/10). Black- and Anglo-preferred candidates won 50% (4/8) and 33% (3/9) of the polarized contests they were involved in.
- Black and Anglo voters tended to have the same preferred candidates in six of the ten races with racially polarized voting. Alternatively, Black and Latino voters had the same candidate once in polarized races.

2 Background and Qualifications

I am a Data Science Faculty Fellow at the Center for Data Science and a Visiting Assistant Professor in the Wilf Family Department of Politics at New York University.¹ I received a Ph.D. in Political Science from Washington University in St. Louis in 2022. My concentration in graduate school was American Politics and Political Methodology.

My current area of expertise is related to local government, race and ethnic politics, and the use of advanced statistical models to understand political phenomena. My research has been published in the *Journal of Experimental Political Science* and *Political Behavior*. Other writings have appeared in the *Oxford Bibliographies in Political Science* and the *Political Science Educator*.

My research has won the Best Poster Award from the Society of Political Methodology, and I have received the Susan Clarke Young Scholar Award from the Urban and Local Politics Section of the American Political Science Association. In addition, I provide a copy of my curriculum vitae in the Appendix of this report.

1. I have also accepted an appointment as a tenure-track Assistant Professor in the Wilf Family Department of Politics at New York University starting in 2024.

3 Racially Polarized Voting

Racially polarized voting occurs when a minority group votes for one candidate and the dominant racial or ethnic group votes for an opposing candidate. For the City of Miami, Florida, we are interested in three ethnic groups: Anglos, Blacks, and Latinos. Indeed, according to the 2020 Census, Latinos of any race make up 70% of the population, while non-Hispanic whites – Anglos – and non-Hispanic Blacks make up 14% and 12%, respectively.²

I classify the candidates as Latino-, Black-, or Anglo-preferred if there is sufficient evidence that the ethnic group votes in a cohesive block. For this report, I use the 60% threshold of support as a sign of cohesive voting. In other words, if a candidate receives higher than 60% support among members of the same ethnic group, that candidate is that group’s preferred candidate. If racially polarized voting exists, I would expect to see the ethnic groups have different preferred candidates in large numbers.

To assess racially polarized voting patterns, I will rely on ecological inference. In the next section, I detail ecological inference and my approach.

4 Methodology: Ecological Inference

Researchers typically examine patterns of racial polarization by inferring individual voting behavior from aggregate data – also known as ecological inference. We infer an individual’s voting behavior by examining voting patterns within and between precincts. Ecological inference estimates racial group-level preferences from aggregate precinct data.

I conduct this analysis using two approaches. First, I examine each election and present a bivariate scatterplot between the ethnic composition of the electorate and candidate vote share. In this analysis, each dot represents a precinct. The x-axis will indicate the electorate’s composition, and the y-axis will indicate the candidates’ vote share. I draw a fitted line and display the correlation coefficient and the corresponding p-value, which will indicate whether the correlation is statistically significant. For a racial group to have a preferred candidate, I expect the fitted line to fall over the 60% threshold of candidate vote share when the precincts are racially homogeneous. The fitted line extrapolates to racially homogeneous precincts even when no observed precinct exists. Second, I run an iterated ecological inference algorithm using eiCompare, which estimates a candidate’s support among each ethnic group.³ This method is widely accepted to estimate candidate support among ethnic or racial groups (Collingwood et al. 2020; King and Roberts 2016; Lau, Moore, and Kellermann 2020).

Researchers typically use the voting age population or citizen voting age population estimate derived from the U.S. Census and predict the racial composition of voters in a given geographic area (i.e., precincts). Fortunately, Miami-Dade County provides a publicly available count of registered voters by precinct and racial/ethnic group using the information on their voter file.⁴ Using the Miami-Dade County data and voter file is preferable to the U.S. Census and prediction approach because it provides a more accurate measure of the racial composition of the electorate.

5 List of Elections Analyzed and Additional Statistics

I examine twenty elections, including six municipal-level (endogenous) contests and fourteen non-municipal (exogenous) contests. Endogenous elections originate from the city itself. This includes races for City Mayor and City Commissioner. Exogenous races are contests that overlap with Miami precincts but do not originate at the city level. Examples of exogenous races include contests for the President, Governor, and County Mayor. Analyzing exogenous races – alongside endogenous one – are essential because they provide

2. The data comes from the U.S. Census Bureau. The table is entitled, “Hispanic or Latino, and Not Hispanic or Latino by Race” in the Decennial Census.

3. The eiCompare (Collingwood et al. 2020) R package relies and builds upon two other packages for ecological inference: “ei” (King and Roberts 2016) and “eiPack” (Lau, Moore, and Kellermann 2020) I include this analysis only for elections where these quantities can be calculated reliably. In all cases, the substantive results from the scatterplots and ecological inference packages are the same.

4. Miami-Dade County’s Elections Department Data: <https://www.miamidade.gov/elections/voter-statistics-current-archive.html>

additional information about the nature of racially polarized voting. The exogenous contests examined in this report are similar to the city-level races in that most are non-partisan local contests. Yet, we benefit from the varying levels of competitiveness found in exogenous races. Indeed, most of the endogenous municipal contests were non-competitive. Thus, it is probative to endogenous and exogenous elections.

In my sample of elections, I include all municipal (endogenous) elections from 2017 to 2021. Beyond municipal elections, I include exogenous contests that have sufficient overlap with Miami precincts. In Table 1 I provide a full list of elections analyzed.

Table 2 shows the composition of the 2020 citizen voting age population using the district line from the 2013 plan. Similarly, Table 3 shows the 2020 citizen voting age population using the district lines from the current 2022 enacted plan.

Table 1: List of Elections Analyzed

Year	Election	Endo/Exo	Office
2021	Municipal	Endogenous	City Mayor
2021	Municipal	Endogenous	City Comm. Dist. 3
2021	Municipal	Endogenous	City Comm. Dist. 5
2017	Municipal	Endogenous	City Mayor
2017	Municipal	Endogenous	City Comm. Dist. 3
2017	Municipal	Endogenous	City Comm. Dist. 4
2020	General	Exogenous	Congress, 24
2020	General	Exogenous	County Comm. Dist. 3
2020	General	Exogenous	County Mayor
2020	General	Exogenous	Clerk of the Court
2020	General	Exogenous	President
2020	Primary	Exogenous	County Property Appraiser
2020	Primary	Exogenous	County Judge, Grp. 24
2020	Primary	Exogenous	County Judge, Grp. 9
2020	Primary	Exogenous	Circuit Judge, Grp. 75
2020	Primary	Exogenous	Circuit Judge, Grp. 67
2020	Primary	Exogenous	Circuit Judge, Grp. 65
2020	Primary	Exogenous	Circuit Judge, Grp. 57
2020	Primary	Exogenous	Circuit Judge, Grp. 55
2018	General	Exogenous	Governor

Table 2: Citizen Voting Age Population by District, 2013 Plan

District	Map/Plan	Anglo	Black	Latino
District 1	2013	4.2%	7.6%	87.4%
District 2	2013	36.8%	9.2%	48.7%
District 3	2013	9.5%	4.2%	85.8%
District 4	2013	7.3%	1%	90.8%
District 5	2013	8%	59.8%	32.3%

Table 3: Citizen Voting Age Population by District, 2022 Enacted Plan

District	Map/Plan	Anglo	Black	Latino
District 1	2022	5%	8.1%	86%
District 2	2022	40.4%	8.7%	44%
District 3	2022	9.9%	3.9%	85.6%
District 4	2022	8.2%	1.3%	89.6%
District 5	2022	9%	58.1%	30.8%

Table 4: 2020 Citizen Voting Age Population

City	Anglo	Black	Latino
Miami	14%	17%	67%

6 Does RPV Exist Across Elections?

In this section, I examine twenty races in the City of Miami. The first six are municipal-level endogenous races, including the mayor and city commissioners. The next fourteen races are exogenous and include races for federal office (i.e., Congress and President), county offices (i.e., county commission, county mayor, county judge, and property appraiser), and state government (Governor).

6.1 Election 1: Mayor 2021

The 2021 Miami mayoral contest was between five candidates: Francis Suarez, Max Martinez, Marie Exantus, Anthony Dutrow, and Francisco Pichel. Francis Suarez won the race with overwhelming support by receiving 78.6% of the vote, with the next closest candidate – Max Martinez – receiving only 11.6% of the vote. Figure 1 shows the bivariate relationship between the precinct’s demographic composition and Suarez’s support. First, we can examine the fitted line in the scatterplot and extrapolate the estimated vote share of the candidate if there were homogeneous precincts (i.e., a precinct with all Anglos, Blacks, or Latinos). Across all groups, Suarez would have received higher than 60% of the vote. Second, these results are verified using the ecological inference algorithm to estimate the candidate’s vote share if only one race or ethnic group voted (Collingwood et al. 2020; King and Roberts 2016; Lau, Moore, and Kellermann 2020). Indeed, Francis Suarez is estimated to receive over 70% support from all racial groups.

I find no evidence of racially polarized voting in this election.

Figure 1: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

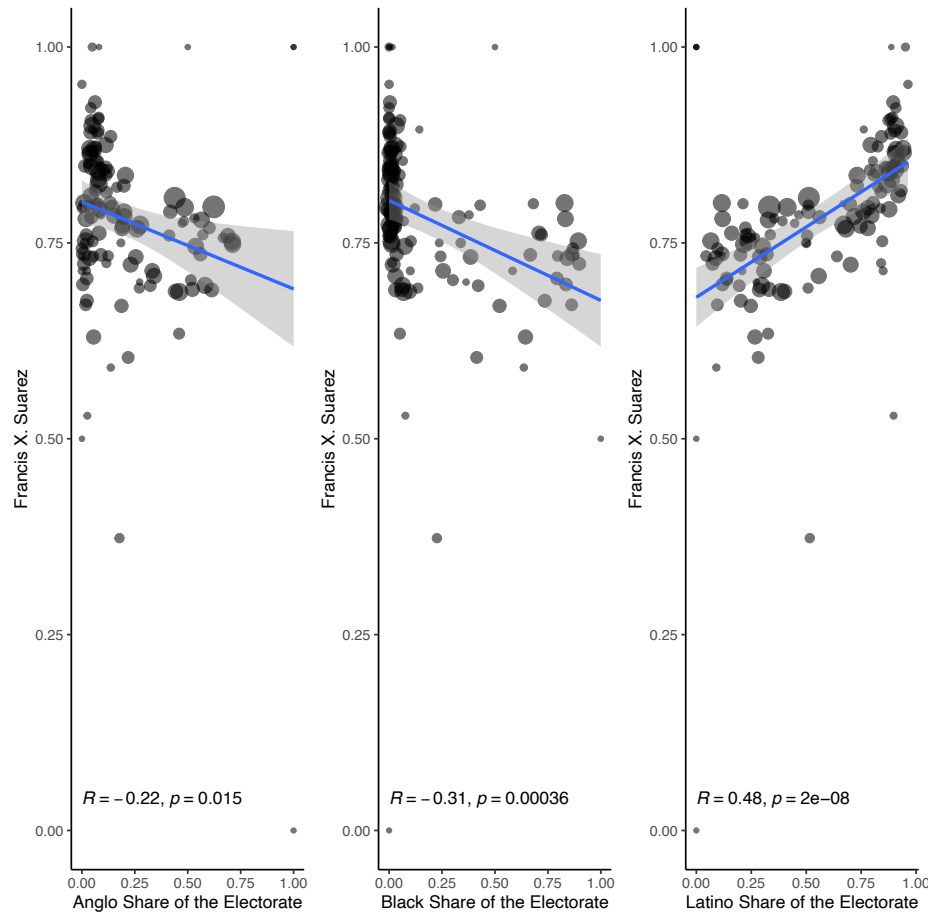
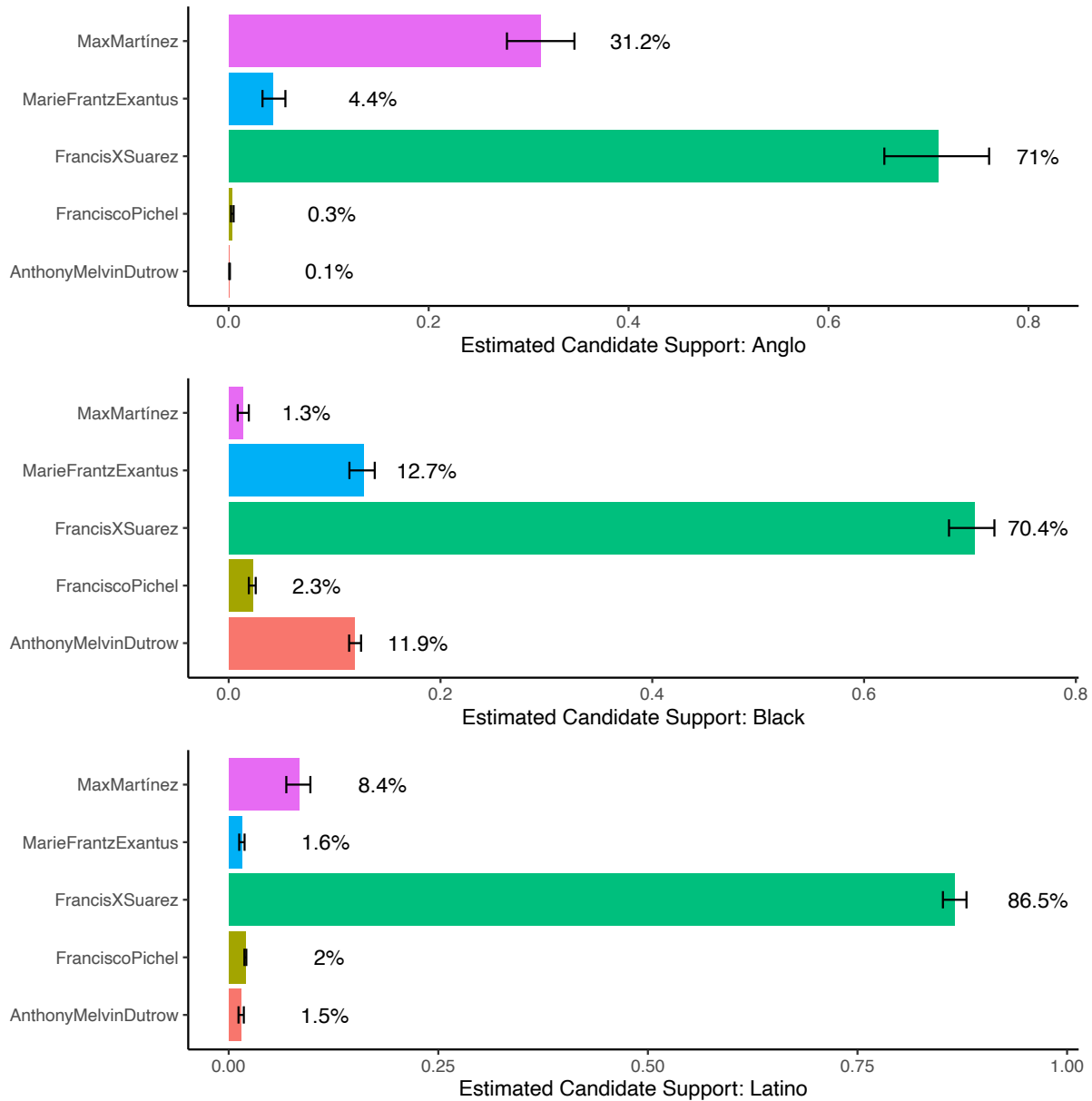


Figure 2: Estimated Candidate Support by Race/Ethnicity

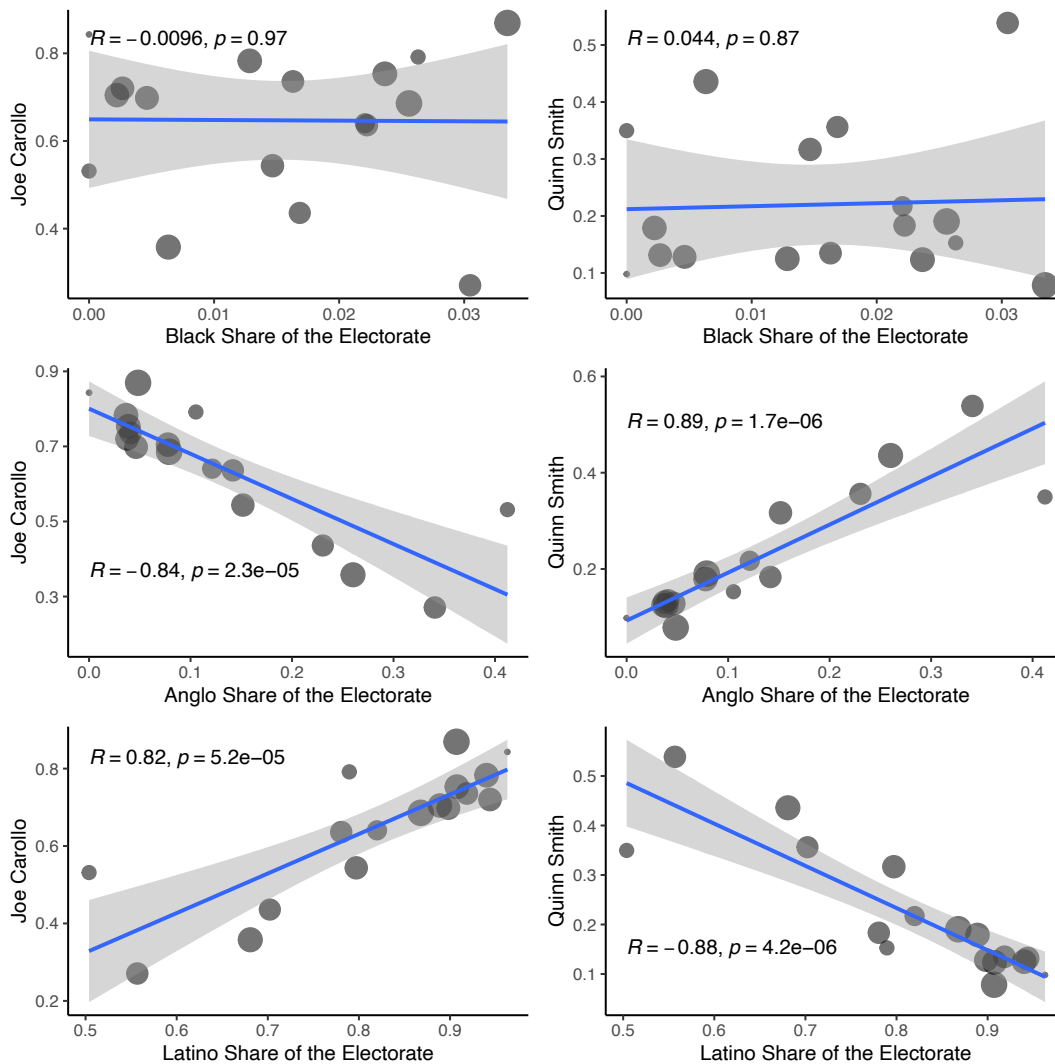


6.2 Election 2: District 3 2021

In 2021, the City of Miami held an election for District 3 City Commissioner between four candidates: Joe Carollo, Andriana Oliva, Quinn Smith, and Miguel Soliman. Joe Carollo won with 64.4% of the vote, while Quinn Smith received the second most votes at 21.8%. Figure 3 depicts the bivariate relationship between the racial composition of the electorate and candidate choice. The Anglo-preferred candidate is Quinn Smith, as shown by the positive relationship between Anglo share of the electorate and Smith vote share. In contrast, as the share of Anglo voters increases, the share of Carollo votes declines. The Latino-preferred candidate is Joe Carollo. As the Latino share of the electorate increases, the share of Carollo votes increase, and the share of Smith votes decrease. I find no relationship between the Black share of the electorate and candidate vote choice. This finding (or lack of one) is driven by the low proportions of Black voters within the commission district. Indeed, the Black share of the electorate is lower than 5% across every precinct in this district.

I find evidence that racially polarized voting exists in this district between Anglos (who preferred Smith) and Latinos (who preferred Carollo). Joe Carollo – the Latino-preferred candidate – won the race.

Figure 3: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

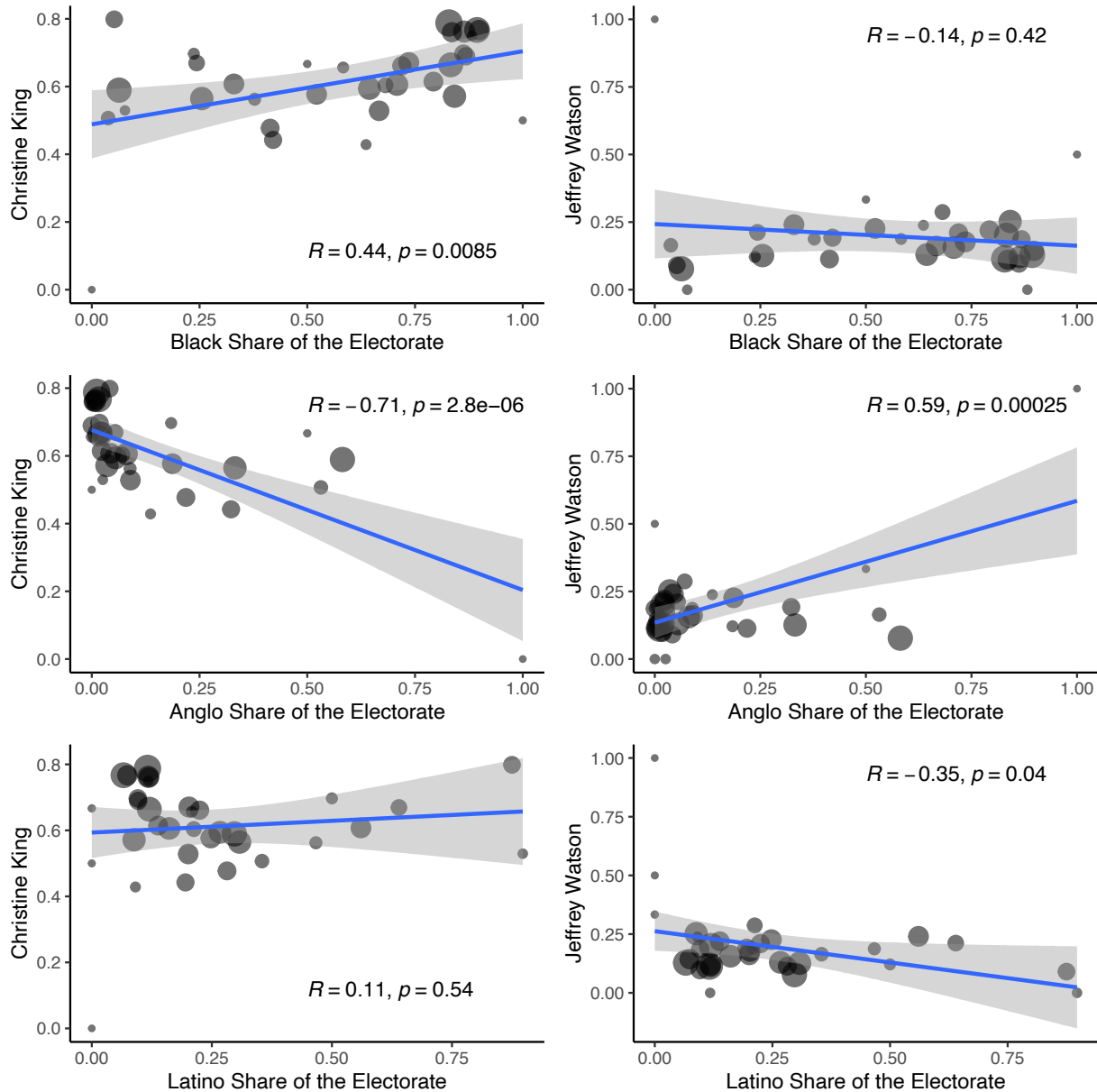


6.3 Election 3: District 5 2021

The City of Miami held an election for District 5 City Commissioner between seven candidates: Francois Alexandre, Zico Fremont, Michael Hepburn, Christine King, Revran Lincoln, Stephanie Thomas, and Jeffrey Watson. Christine King won with 64.92% of the vote, with Jeffrey Watson receiving the second most votes at 15.81%. Figure 4 depicts the bivariate relationship between electorate demographics and candidate vote choice. The Black-preferred candidate and the Latino-preferred candidate was Christine King. I find no evidence that Anglo support for any candidate reached the 60% threshold.

I find no evidence of racially polarized voting in this election.

Figure 4: Scatterplot: Race/Ethnic Composition by Candidate Vote Share



6.4 Election 4: Mayor 2017

Miami held an election for Mayor in 2017 between four candidates: Francis Suarez, Williams Armbrister, Christian Canache, and Cynthia Jaquith. Francis Suarez won with 85.81% of the vote, with Cynthia Jaquith receiving 5.47% of the vote. Figure 5 depicts the bivariate relationship between electorate demographics and candidate choice. Across all racial and ethnic groups, Suarez was the preferred candidate.

I find no evidence of racially polarized voting in this contest.

Figure 5: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

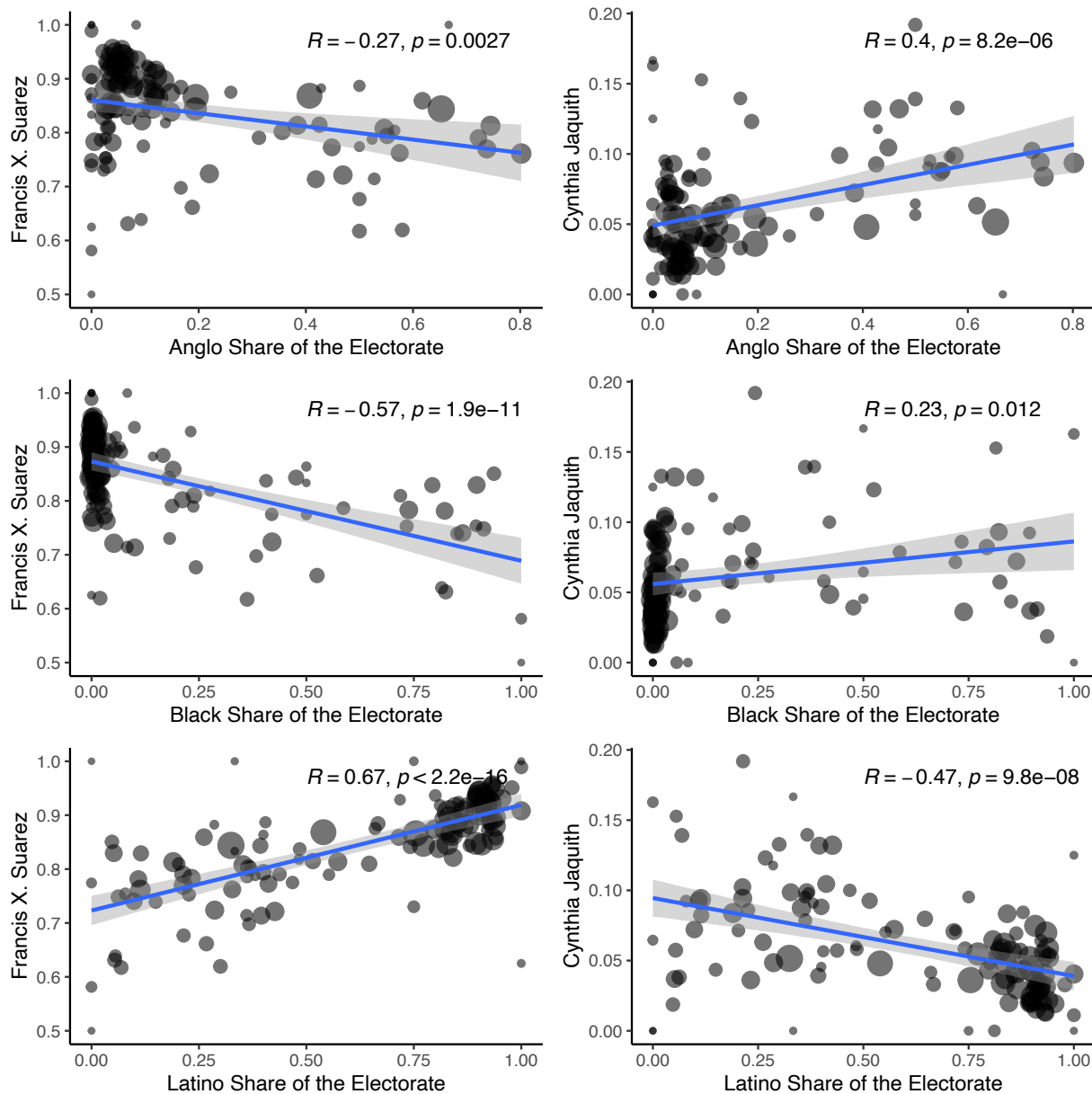
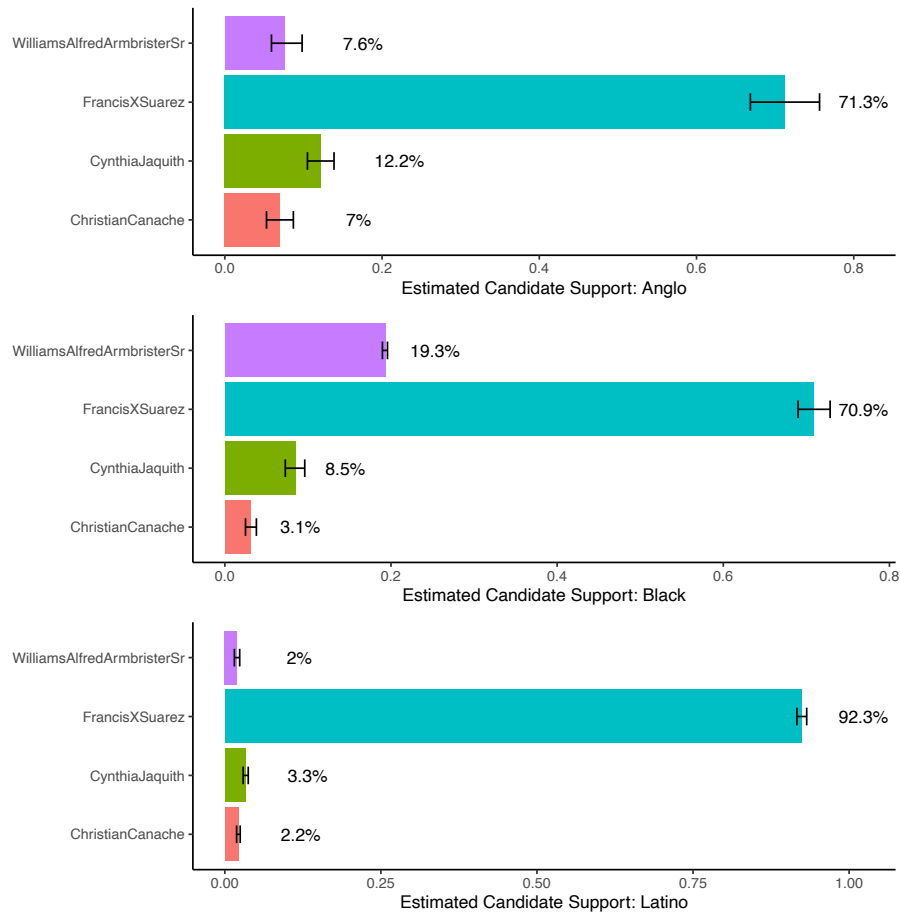


Figure 6: Estimated Candidate Support by Race/Ethnicity



6.5 Election 5: City Commissioner District 3 2017

Miami held an election for District 3 City Commissioner on December 7th between seven candidates. This contest proceeded to a runoff election between Joe Carollo and Alfonzo Leon. I analyze the runoff election. Joe Carollo won with 52.7% of the vote. Alfonzo Leon was the Anglo- and Black-preferred candidate. Both groups were cohesive in their support (95.7% and 99%). The Latino-preferred candidate was Joe Carollo. I estimate the Latino support for Carollo to be 60.8%, which is near the threshold. It's important to note that most precincts in this district had a Latino super-majority. Indeed, no precinct in this district had less than 50% Latino share of the electorate.

I find evidence of racially polarized voting in this contest. The Latino-preferred candidate prevailed.

Figure 7: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

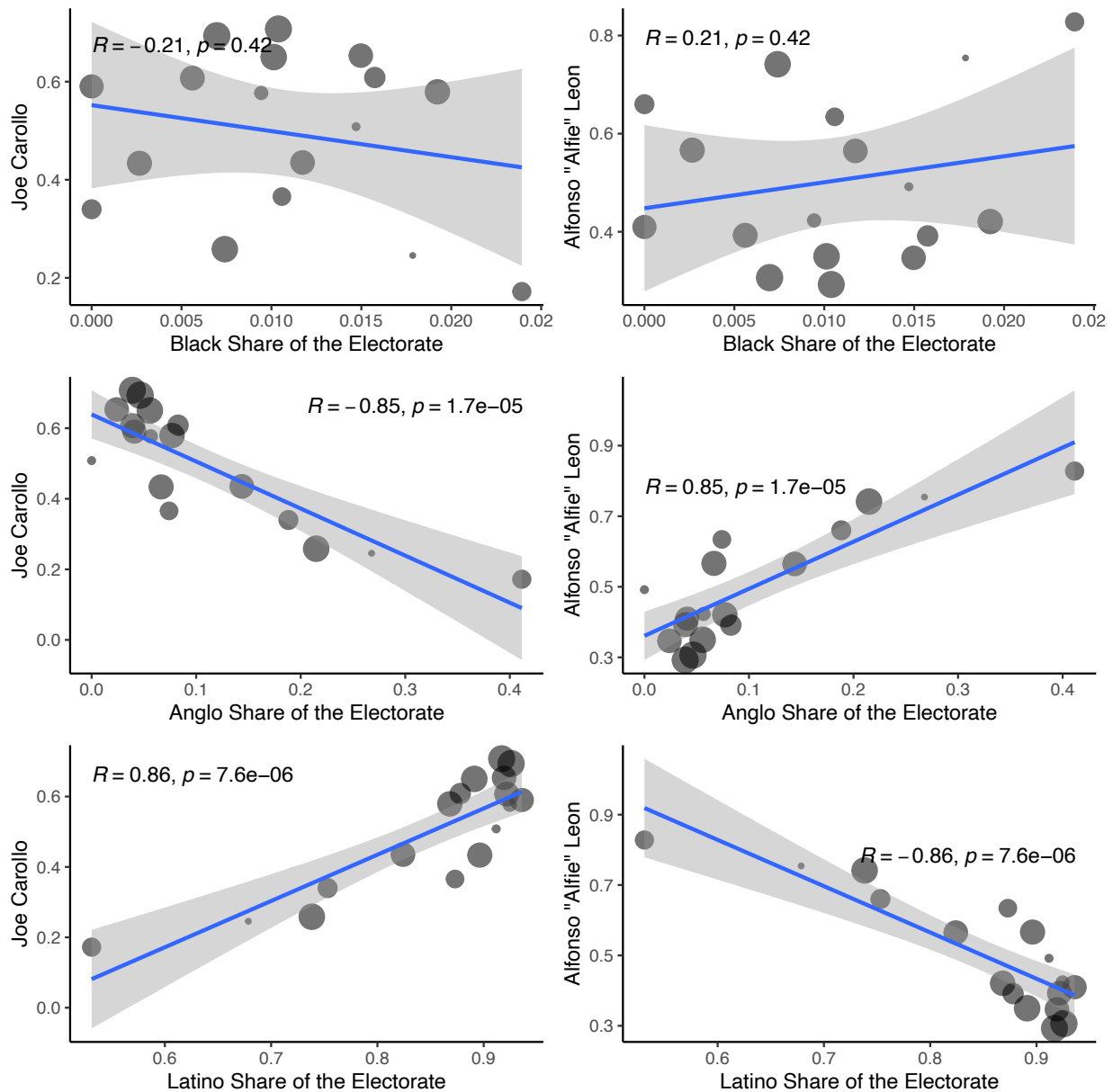
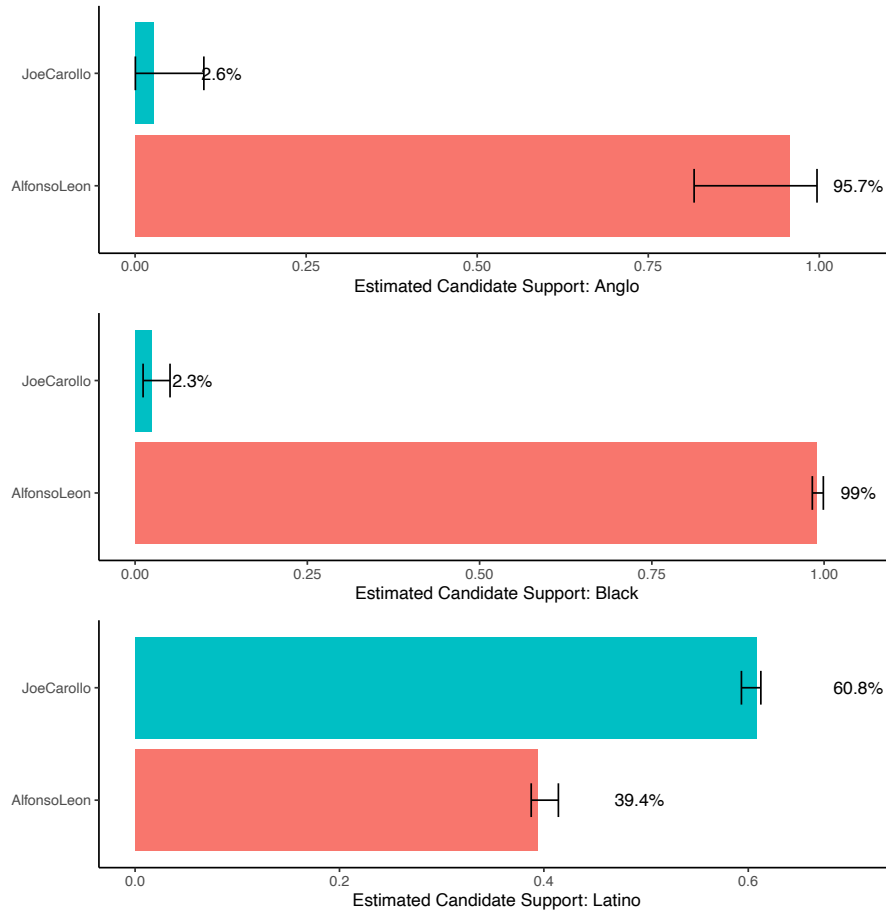


Figure 8: Estimated Candidate Support by Race/Ethnicity

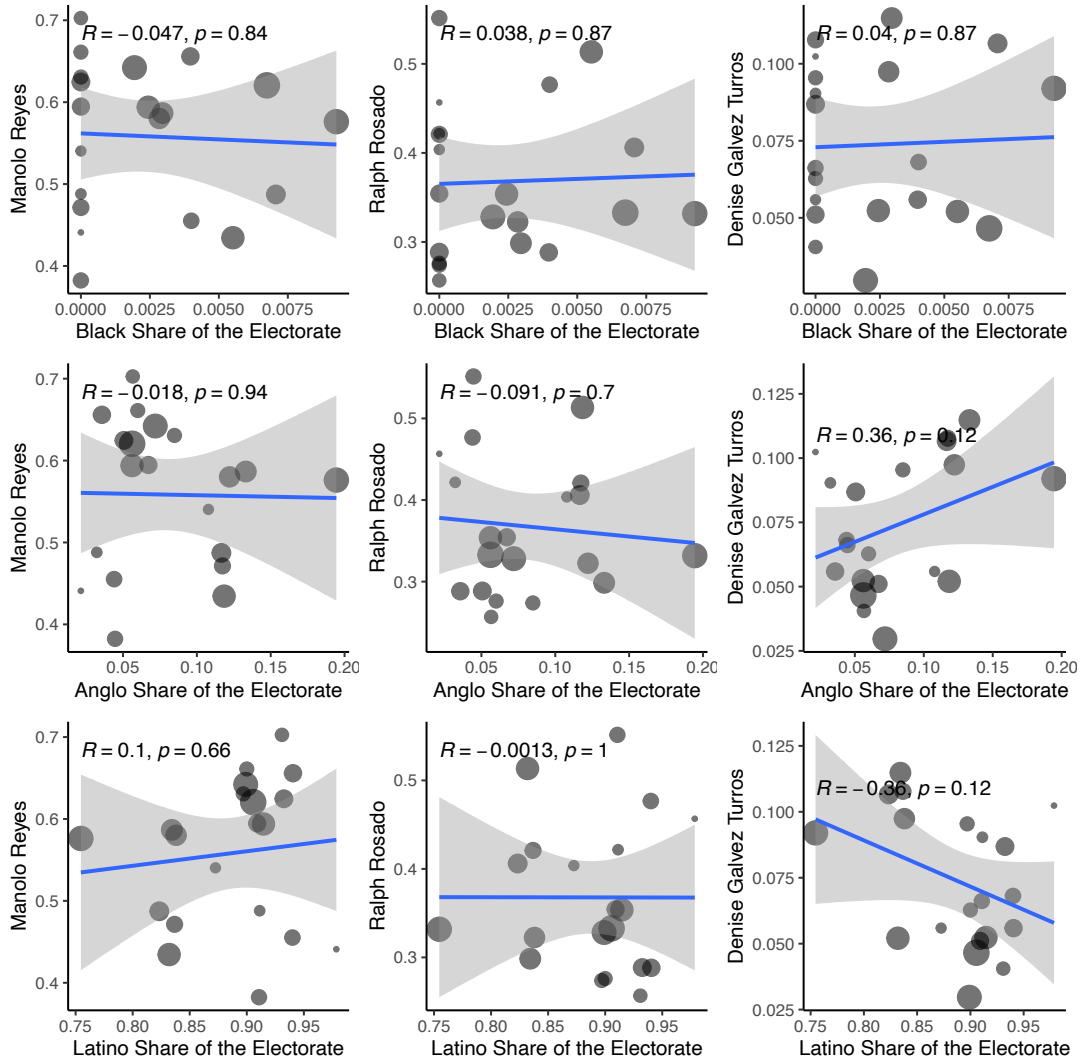


6.6 Election 6: District 4 2017

Miami held an election for District 4 Commissioner between three candidates: Manolo Reyes, Ralph Rosado, and Denise Turros. Manolo Reyes won the election with 56.74% of the vote, with Ralph Rosado receiving the second most votes at 36.15%. Figure 9 depicts the bivariate associations between the racial composition of the electorate and vote choice. No candidates were deeply preferred by any racial group, as shown by the lack of relationships throughout Figure 9. District 4 is a predominantly Latino district with all precincts having more than 70% Latino electorate.

I find no evidence of racially polarized voting in this election.

Figure 9: Scatterplot: Race/Ethnic Composition by Candidate Vote Share



6.7 Election 7: Congress 24 2020

The northern part of Miami sat in Florida's 24th Congressional District prior to the 2022 redistricting. I examine precincts in the City of Miami. In the 2020 election, there were three candidates in the race: Frederica Wilson (Democrat), Lavern Spicer (Republican), and Christina Olivo (Independent). Frederica Wilson was the preferred candidate among Black voters. I do not find evidence that Anglo or Latino voters had a preferred candidate. As Figure 11 shows, support for Frederica Wilson was only greater than 60%

among Black voters, even though all racial groups nominally supported Wilson. While the Miami portion of this congressional district was majority Black, Wilson won the plurality of the votes in both the Anglo and Latino majority precincts. Wilson won Miami precincts with 76.5% of the vote.

I find no evidence of racially polarized voting across the Miami precincts in this election.

Figure 10: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

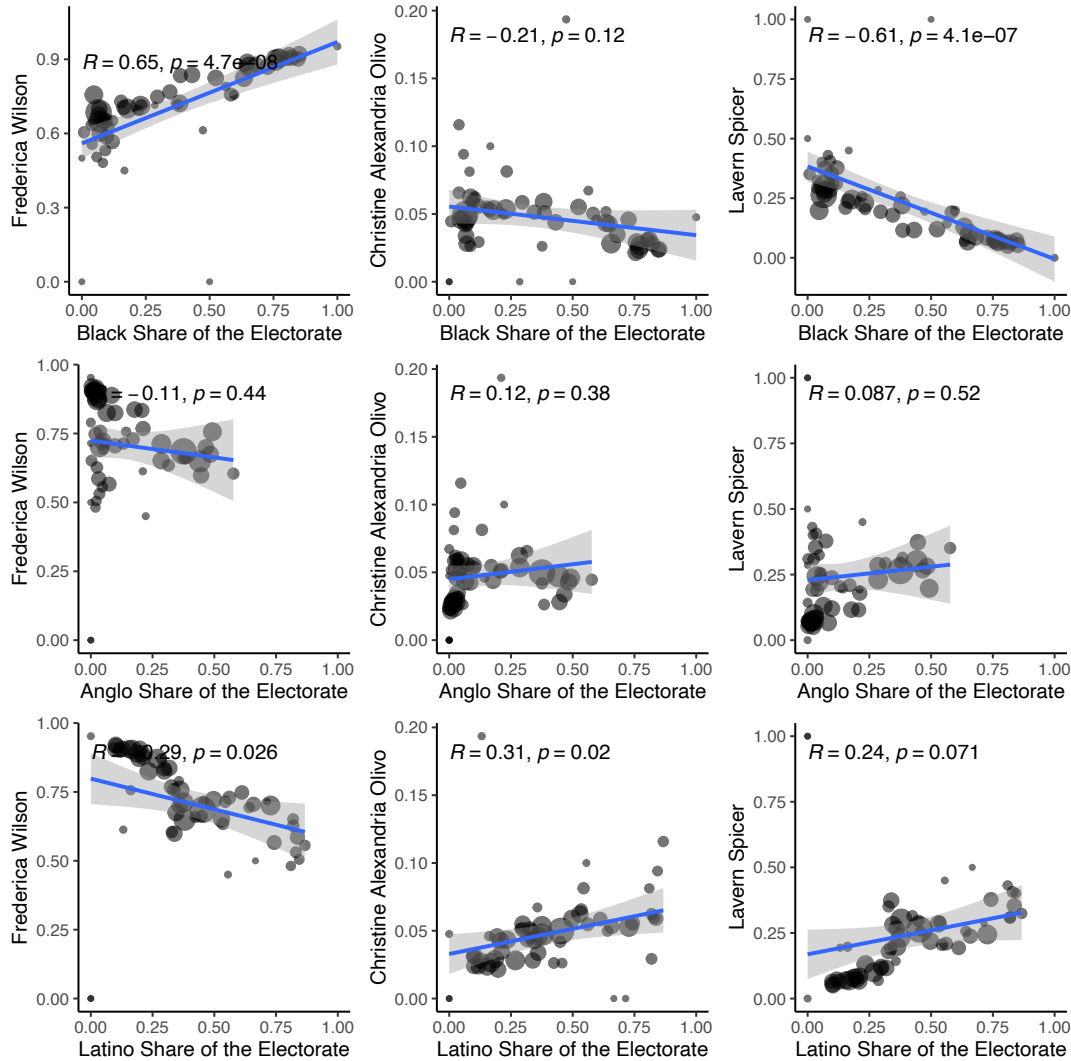
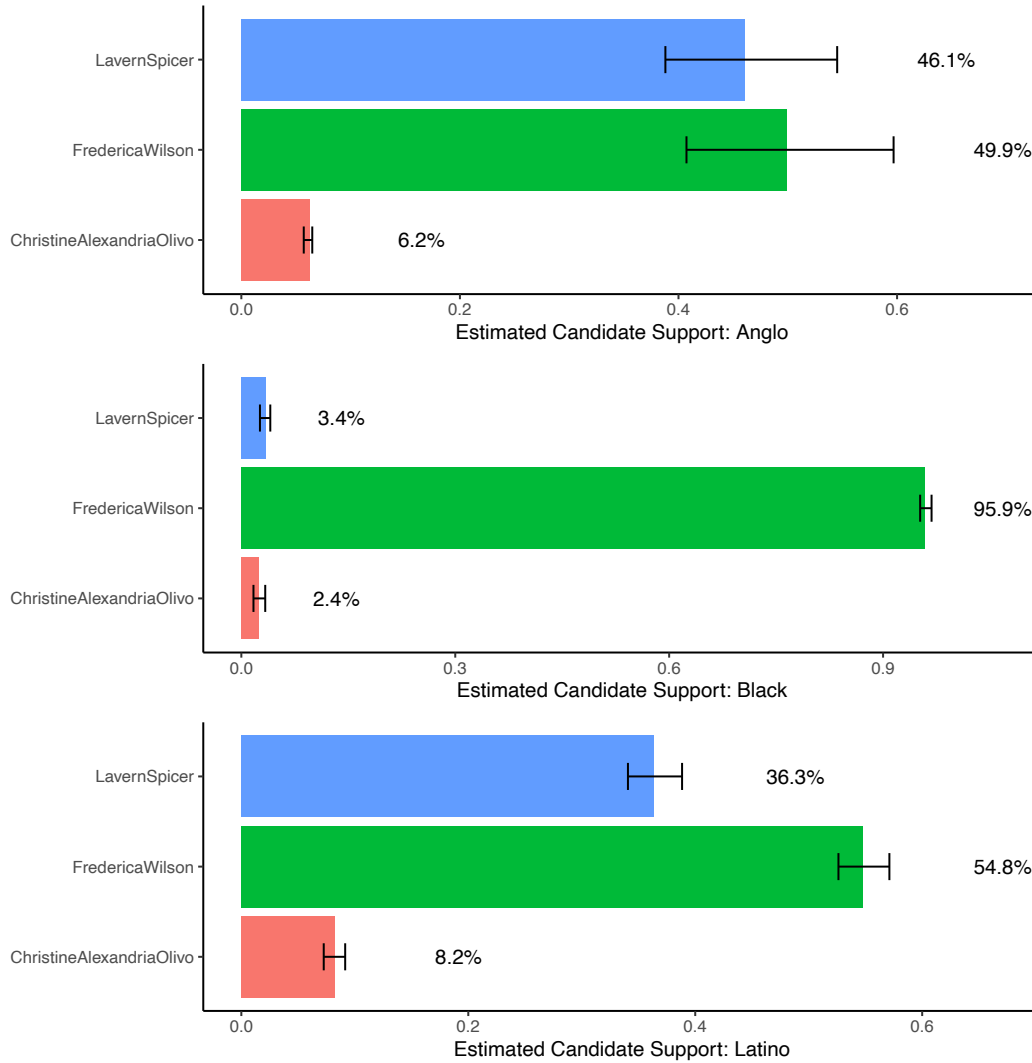


Figure 11: Estimated Candidate Support by Race/Ethnicity



6.8 Election 8: County Commission 3 2020

The exogenous election of County Commissioner District 3 was between Keon Hardemon and Gepsie Metellus. If the election were held in Miami precincts, Hardemon would have won with 66.7%. The Black-preferred and Latino-preferred candidate was Keon Hardemon, and the Anglo-preferred candidate was Gepsie Metellus.

I find evidence that racially polarized voting exists between the Miami precincts of County Commission 3. The Black and Latino preferred candidate (Keon Hardemon) won against the Anglo-preferred candidate (Gepsie Metellus).

Figure 12: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

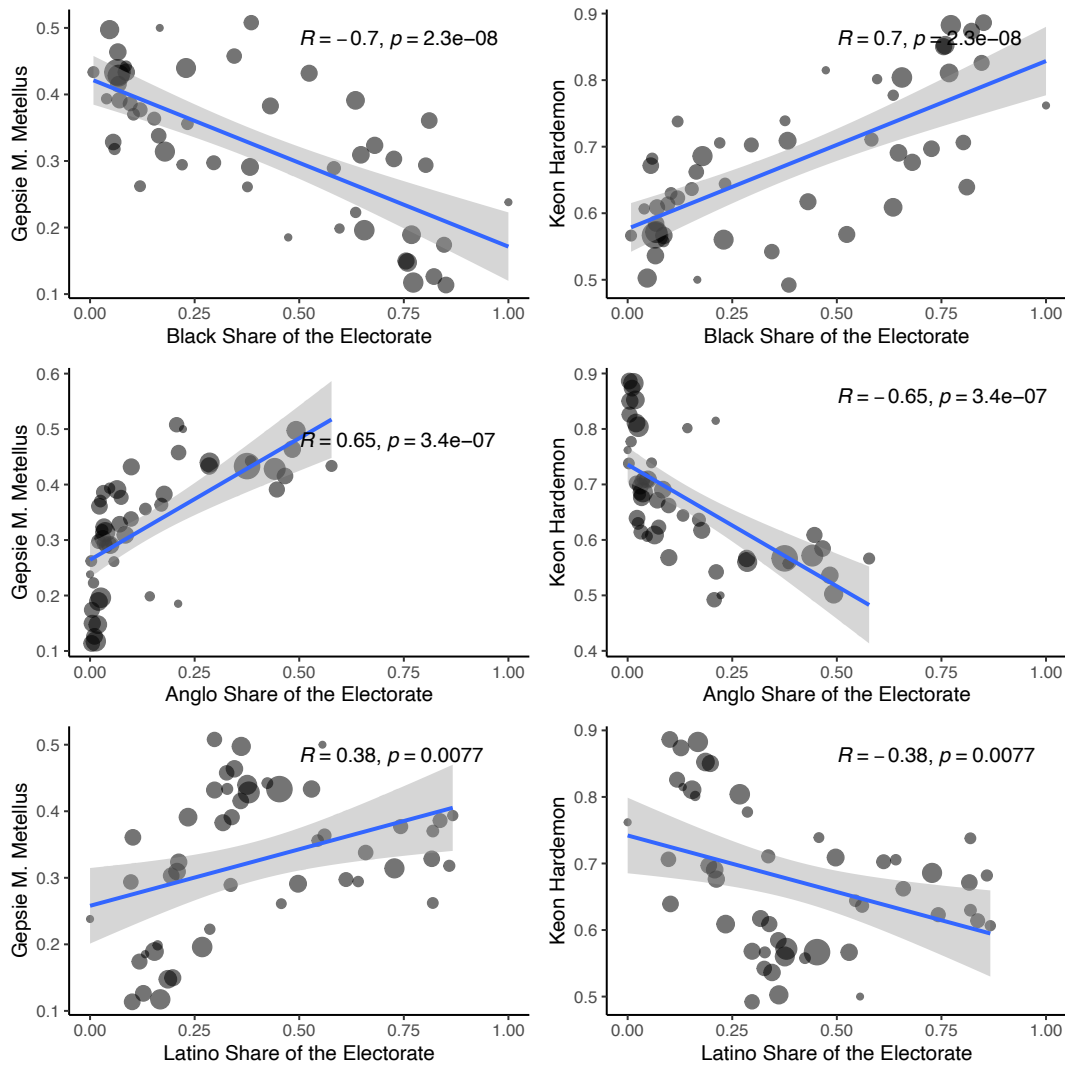
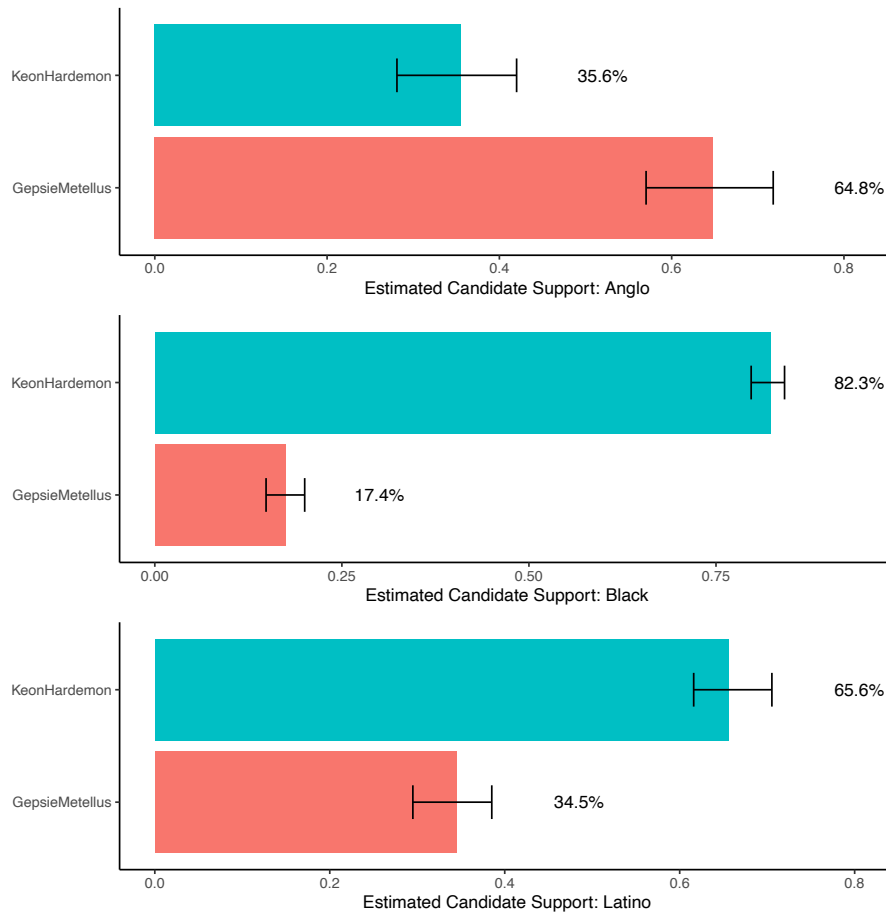


Figure 13: Estimated Candidate Support by Race/Ethnicity



6.9 Election 9: County Mayor 2020

The 2020 Miami-Dade County Mayor race was between five candidates: Daniella Levine Cava, Esteban Bovo, Alex Penelas, Xavier Suarez, and Monique Barley. During the runoff election, Daniella Levine Cava won with 54% of the vote. I analyze the runoff results in the Miami precincts. Figure 14 depicts the bivariate association between the electorate's racial composition and the candidate's vote share. The Black- and Anglo-preferred candidate was Daniella Levine Cava. The Latino-preferred candidate was Esteban Bovo. Latino support for Bovo is estimated near the 60% threshold.

I find evidence of racially polarized voting in this contest. The Black- and Anglo-preferred candidate won.

Figure 14: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

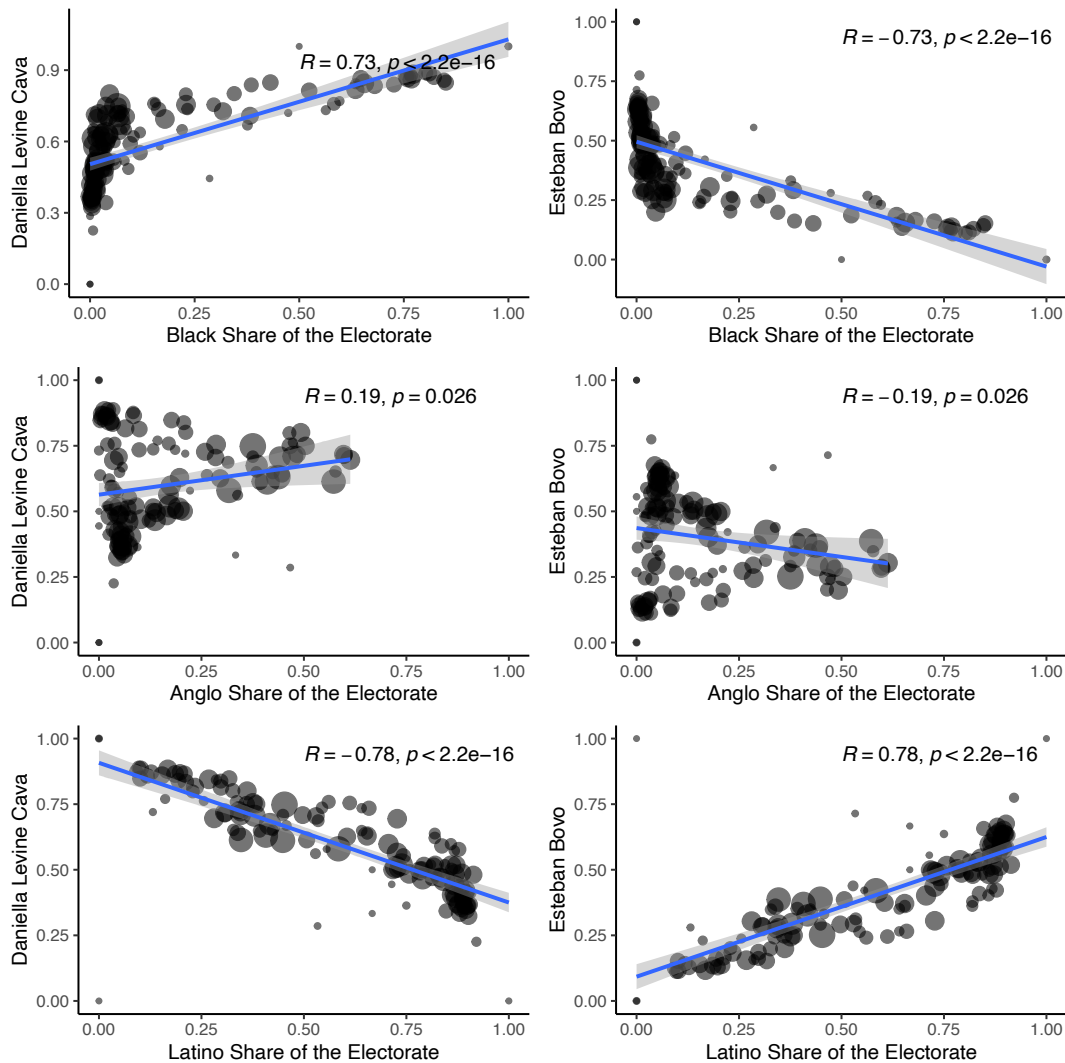
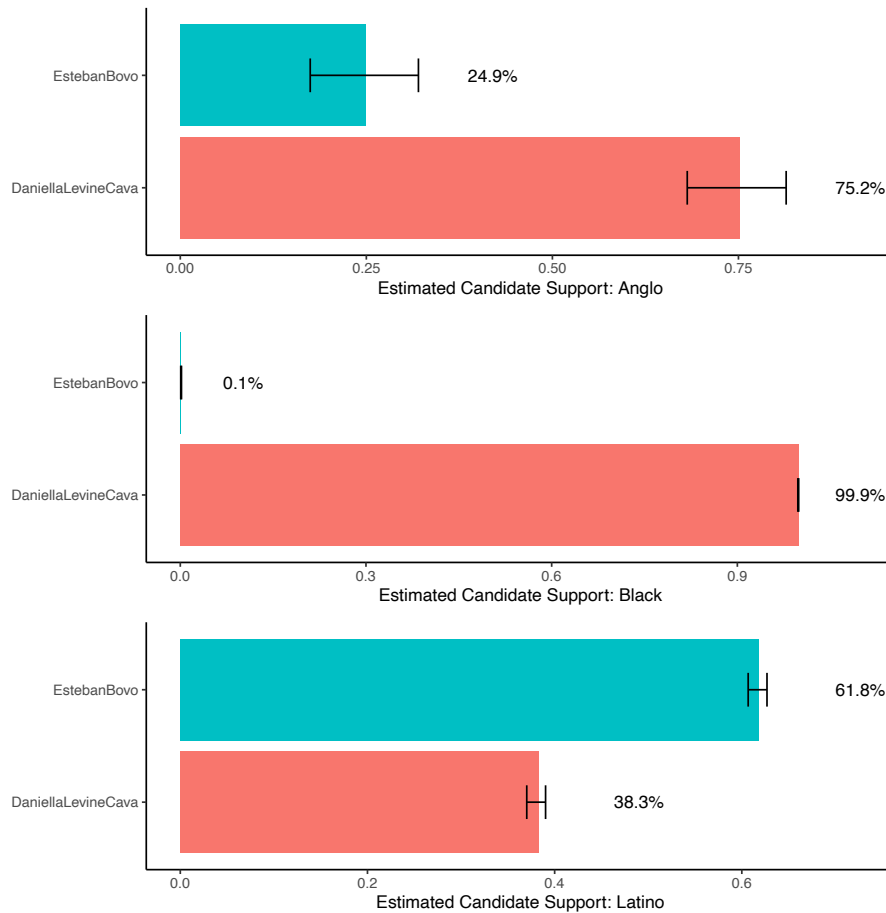


Figure 15: Estimated Candidate Support by Race/Ethnicity



6.10 Election 10: Clerk 2020

The contest for the County Clerk of the Courts was between two candidates: Harvey Ruvin (Democrat) and Rubin Young (Independent). I use Miami precincts in this analysis. Harvey Ruvin won with 76.5% of the vote in Miami precincts. All racial and ethnic groups preferred Harvey Ruvin.

I find no evidence of racially polarized voting in this contest.

Figure 16: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

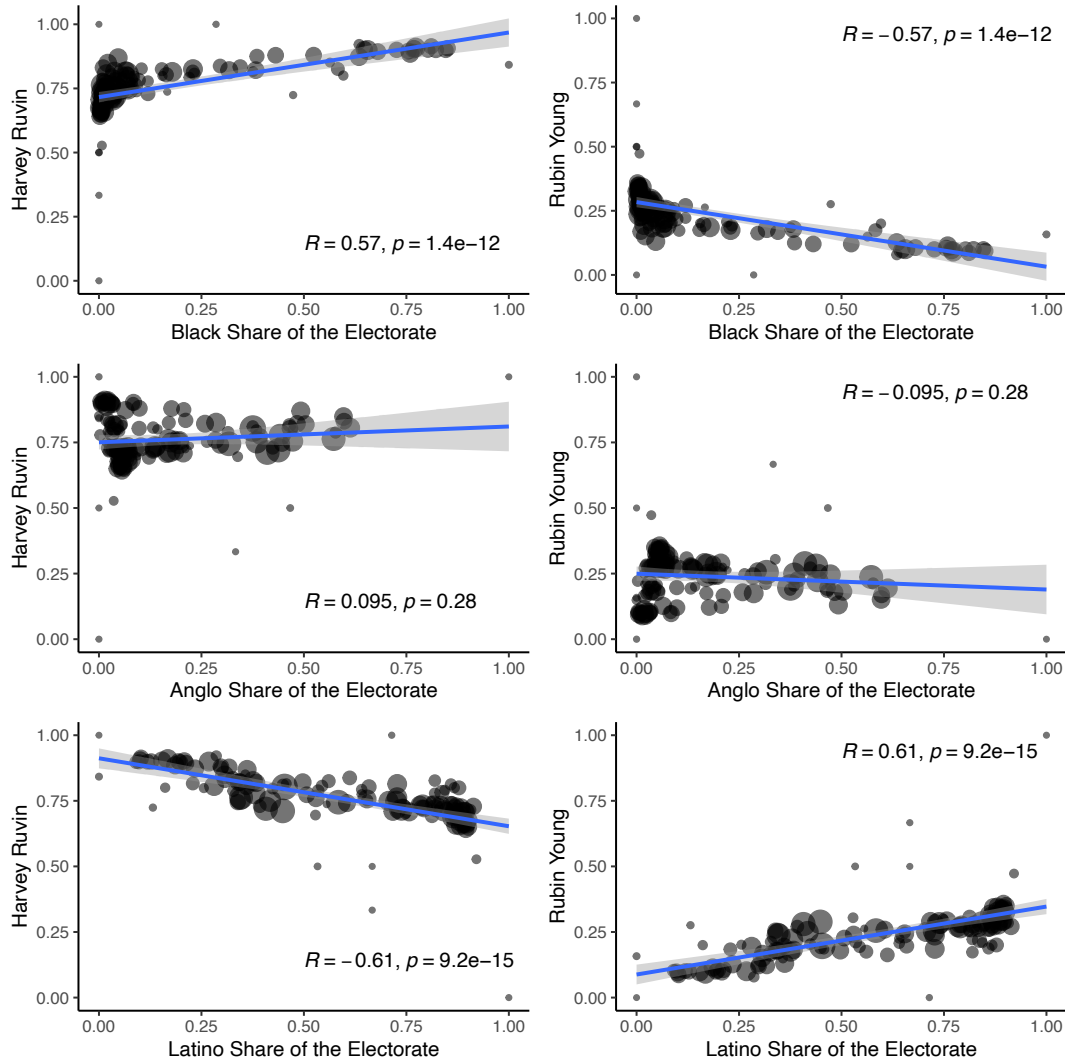
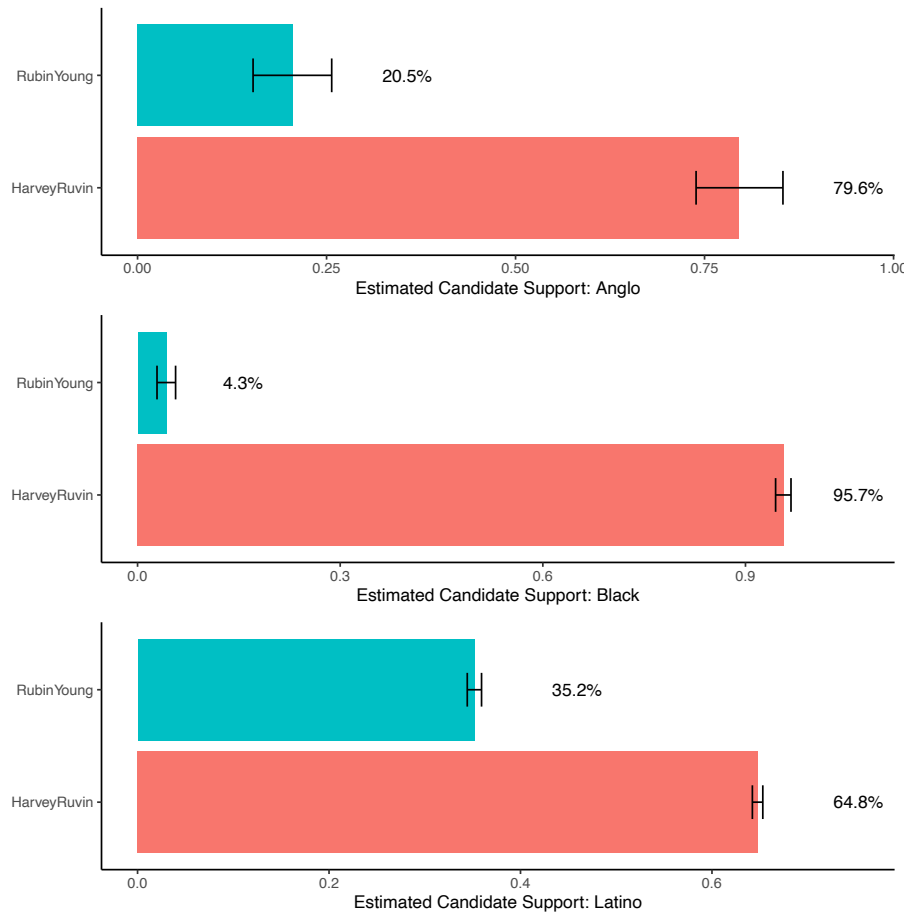


Figure 17: Estimated Candidate Support by Race/Ethnicity



6.11 Election 11: President 2020

The 2020 Presidential race was primarily between Donald Trump (Republican) and Joseph Biden (Democrat). I analyze Miami precincts only. Biden won Miami precincts with 59% of the vote. The Anglo and Black-preferred candidate was Joseph Biden, while the Latino-preferred candidate was Donald Trump. Latino cohesion was near the 60% threshold. Black and Anglo support for Biden was cohesive at an estimated 95% and 80%, respectively.

I find evidence of racially polarized voting in this contest. The Black and Anglo-preferred candidate (Biden) won.

Figure 18: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

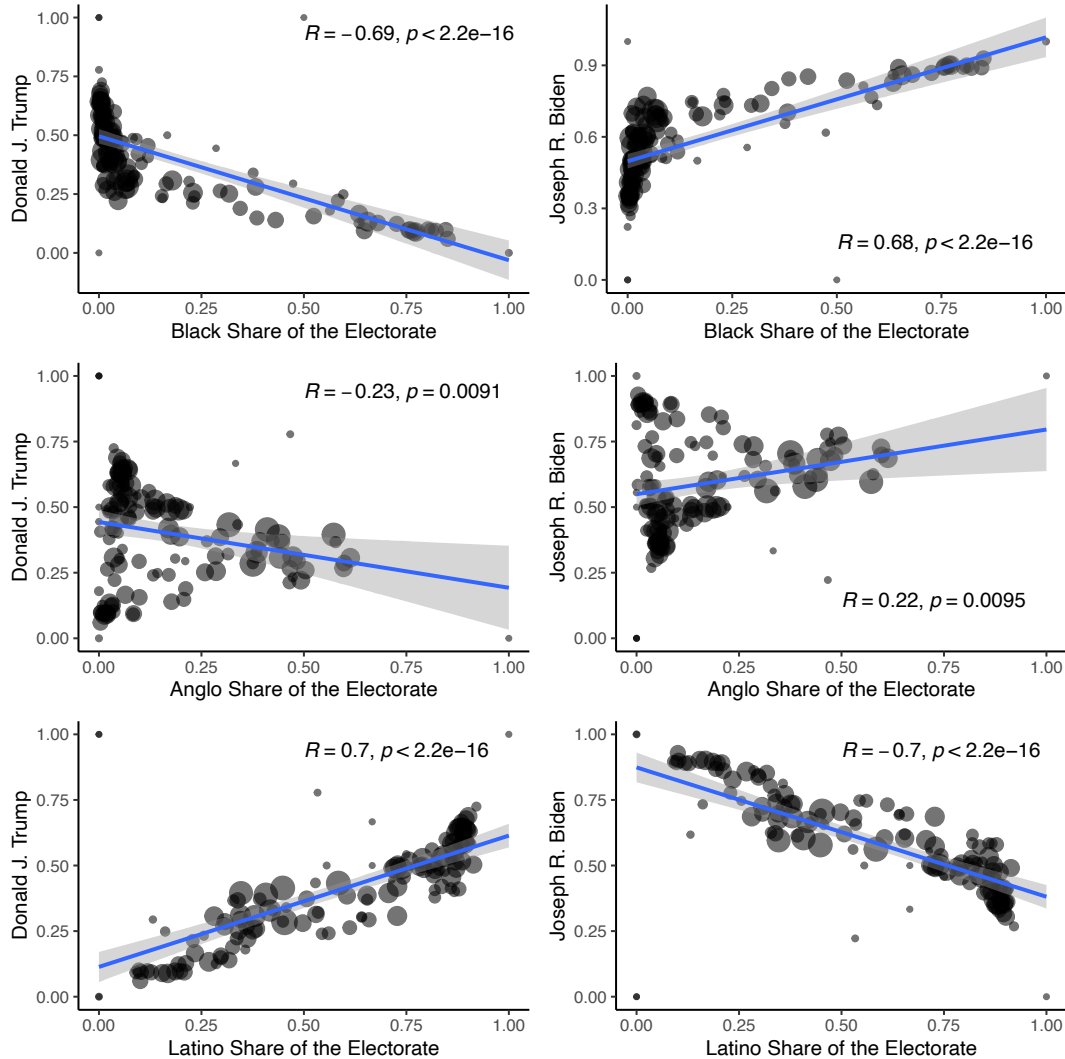
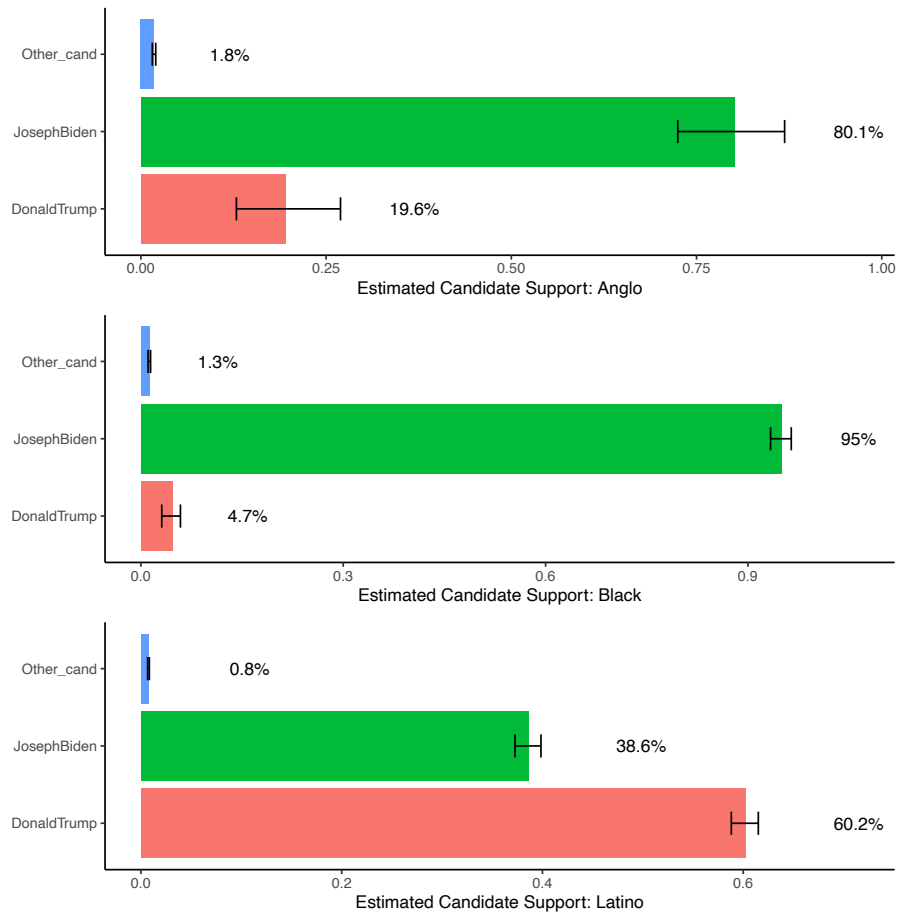


Figure 19: Estimated Candidate Support by Race/Ethnicity



6.12 Election 12: County Property Appraiser 2020

The County Property Appraiser election was between Pedro Garcia and Marisol Zenteno. While the Anglo-preferred candidate was Marisol Zenteno, I fail to find evidence that Latinos or Black greatly preferred either. In other words, while Latinos nominally supported Garcia (58%) and Blacks supported Zenteno (53%), neither Latino nor Black preferred a candidate over 60% (See Figure 21). Zenteno won Miami precincts with 51% of the vote.

I find no evidence of racially polarized voting in this contest.

Figure 20: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

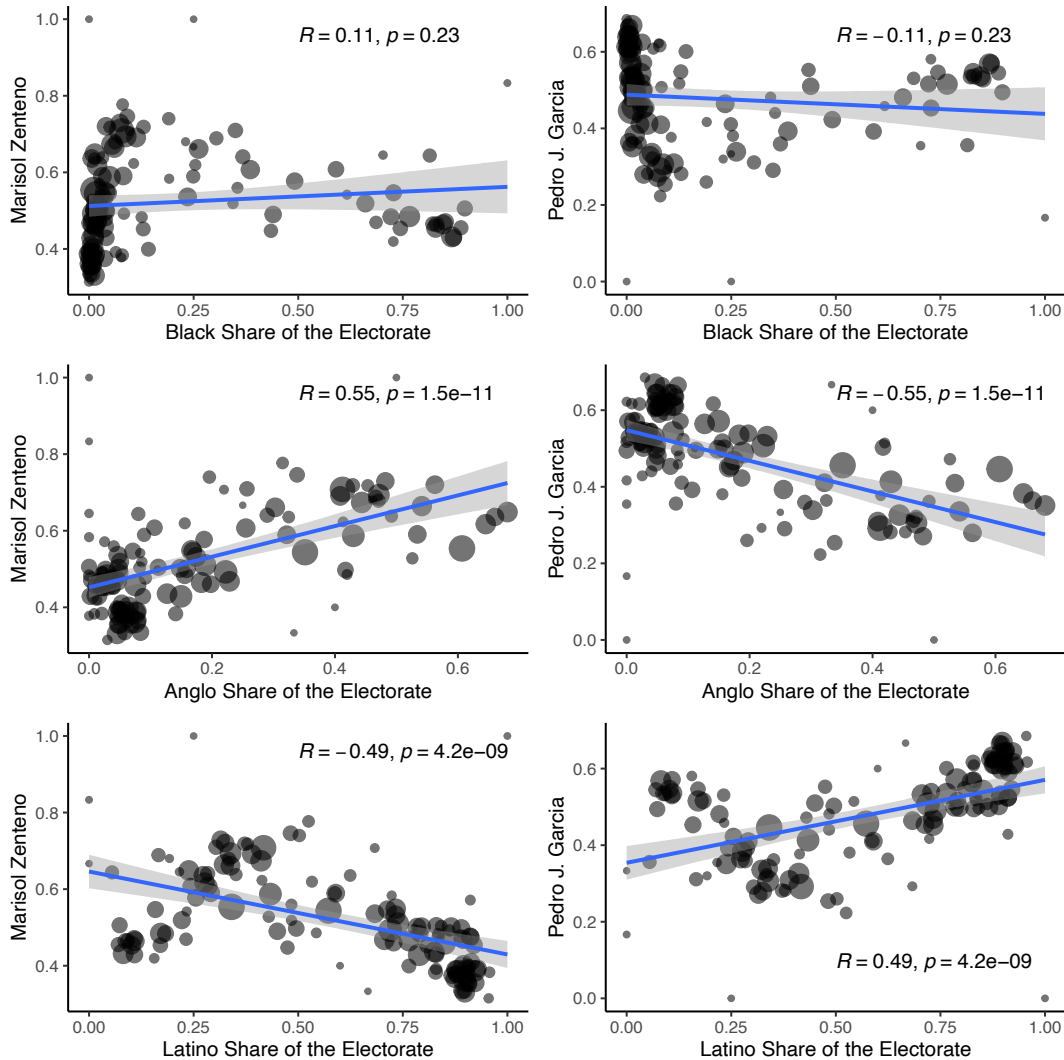
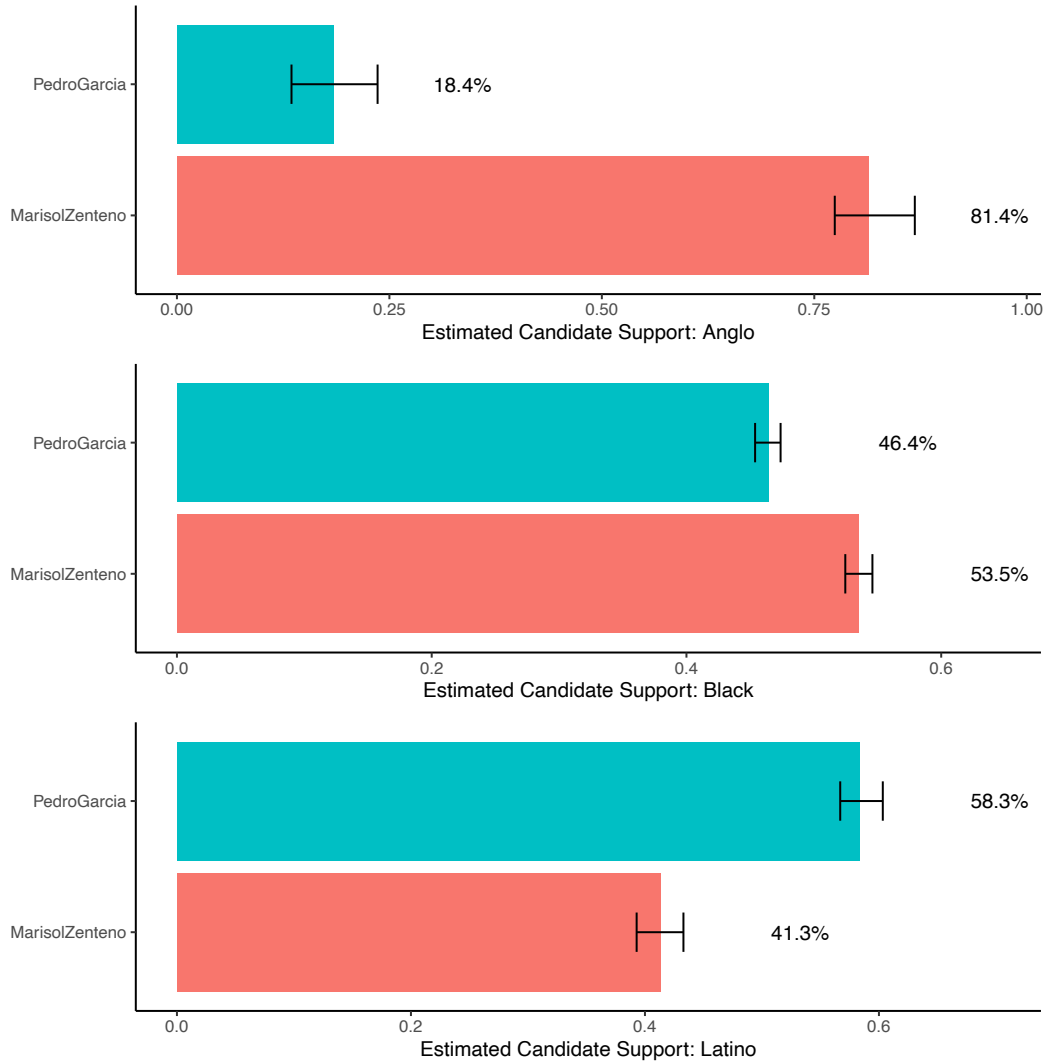


Figure 21: Estimated Candidate Support by Race/Ethnicity



6.13 Election 13: County Judge 24 2020

The County Judge Group 24 election was between Christine Bandin and Shaun Spector. Analyzing Miami precincts only, Christine Bandin won the race with 78% of the vote. Bandin was the preferred candidate by all racial and ethnic groups.

I find no evidence of racially polarized voting in this contest.

Figure 22: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

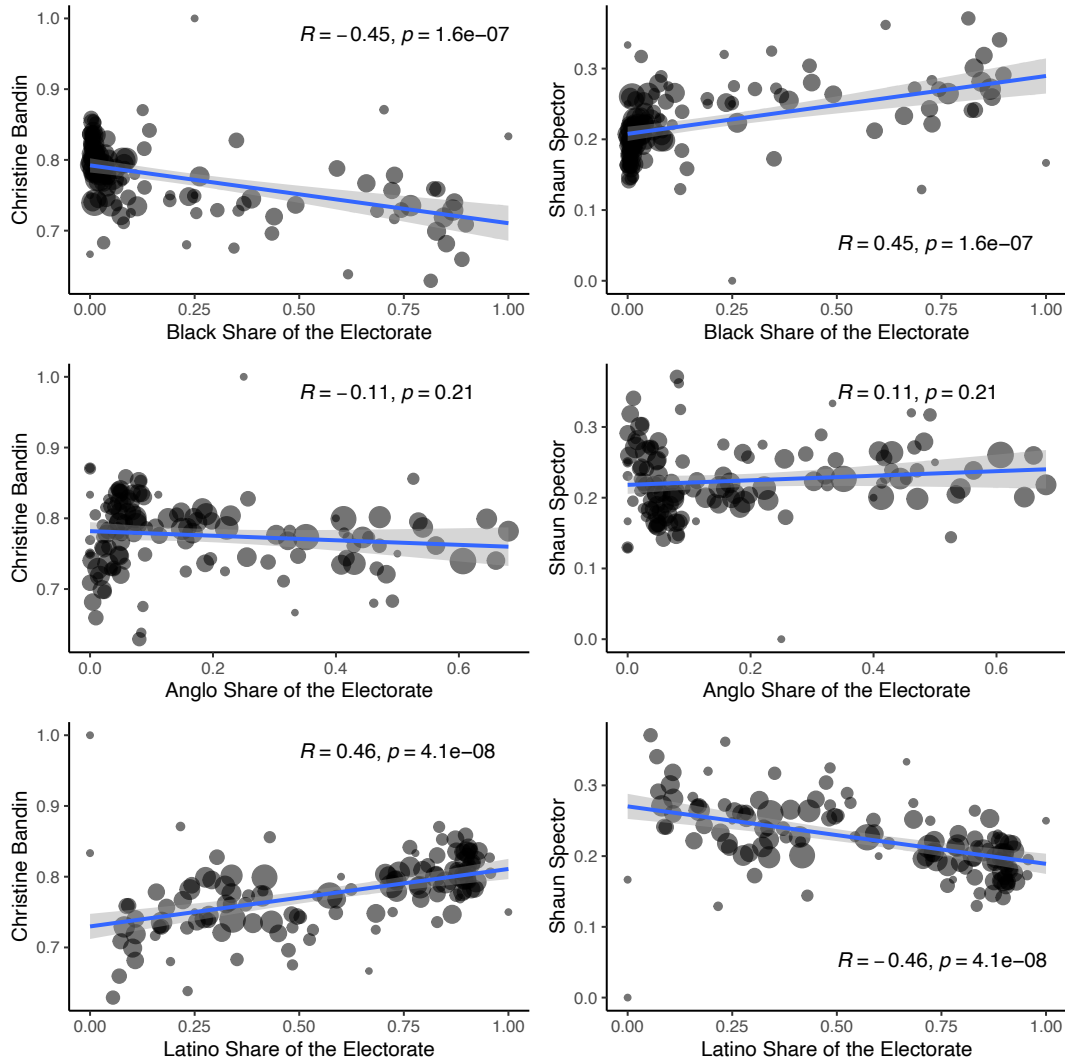
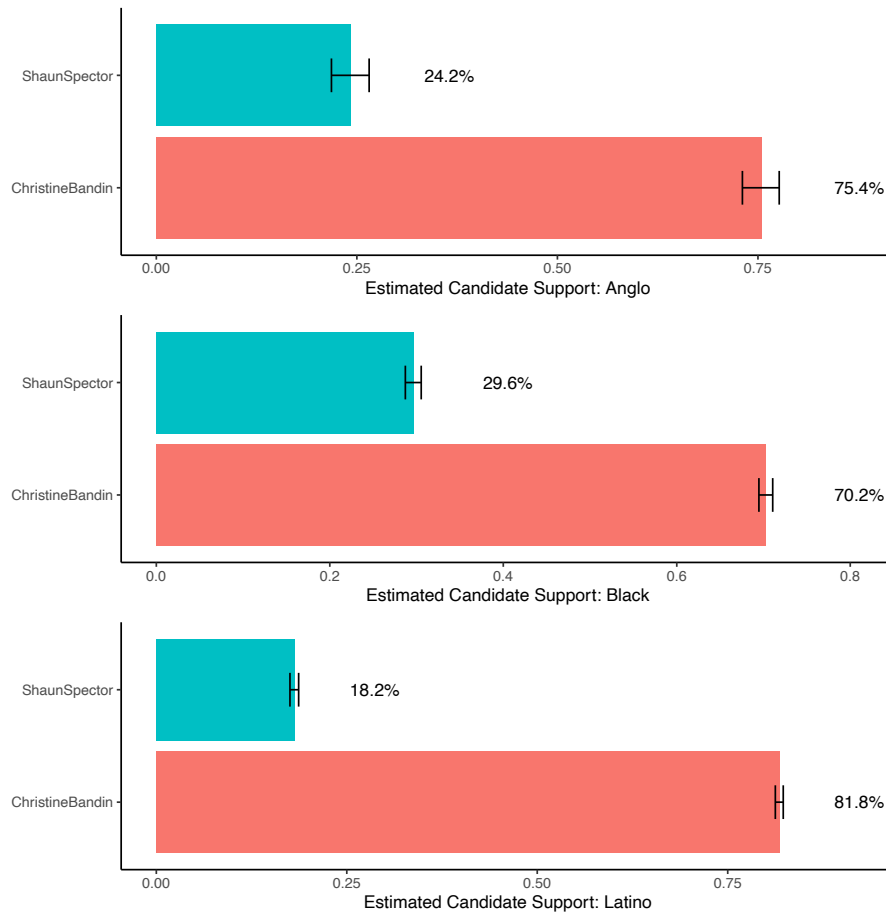


Figure 23: Estimated Candidate Support by Race/Ethnicity



6.14 Election 14: County Judge 9 2020

The County Judge (Group 9) election was between Joseph Mansfield and Miguel Mirabal. In the Miami precincts, Miguel Mirabal won the race with 53% of the vote. The Black and Anglo-preferred candidate was Mansfield, while the Latino-preferred candidate was Mirabal.

I find evidence of racially polarized voting in this contest with the Black and Anglo-preferred candidates losing.

Figure 24: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

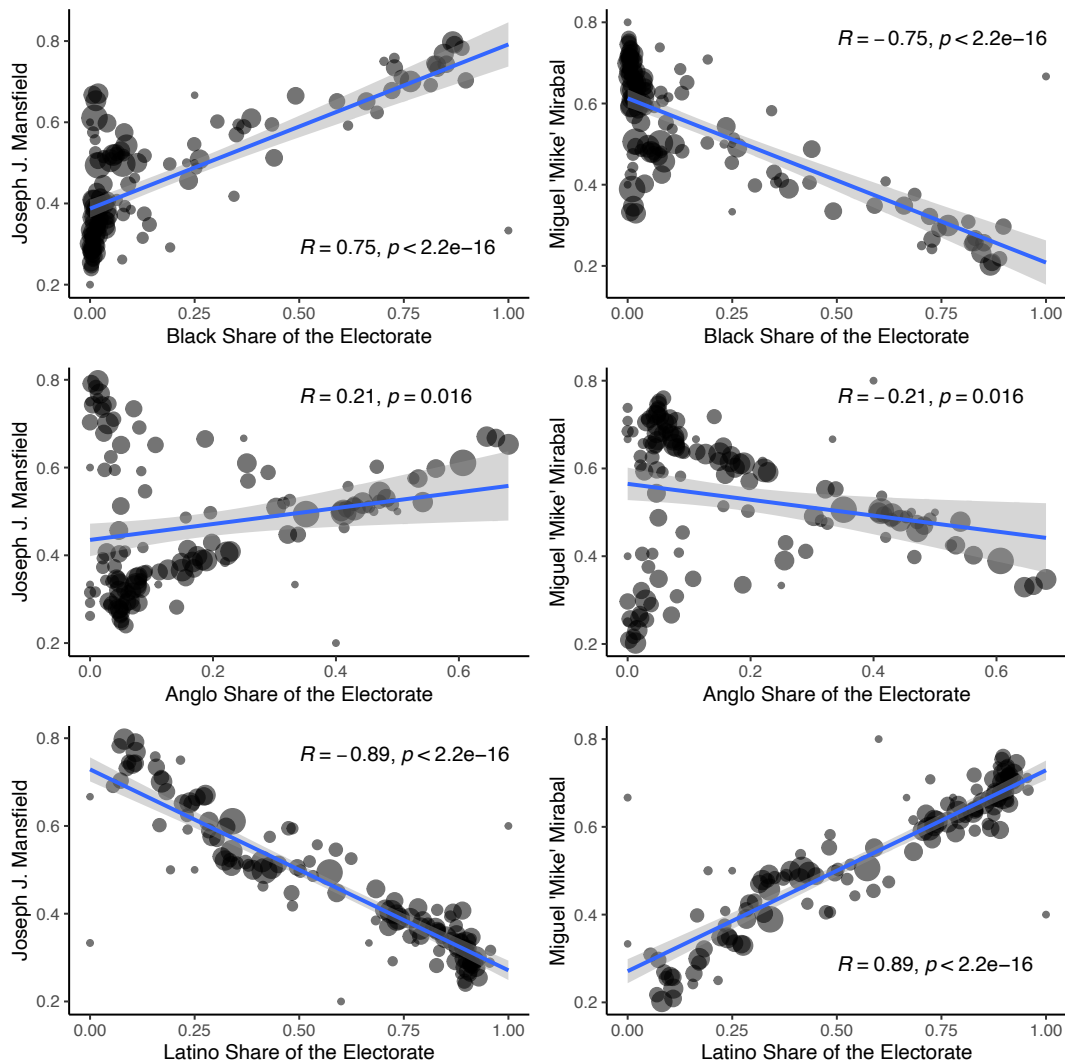
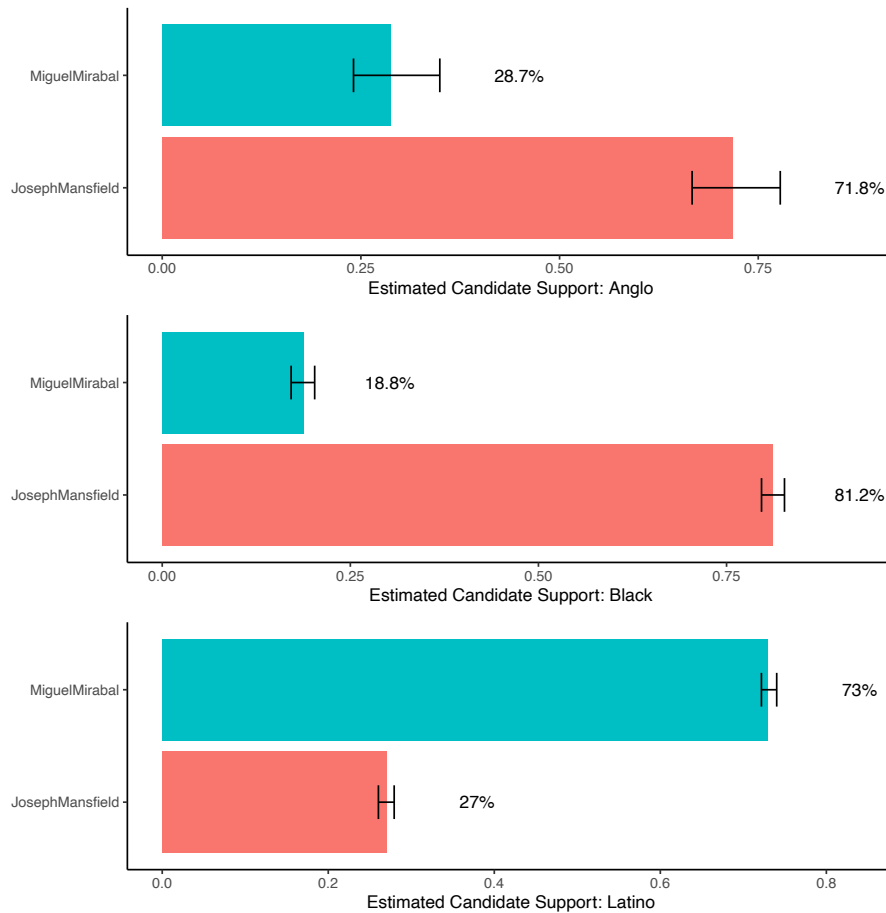


Figure 25: Estimated Candidate Support by Race/Ethnicity



6.15 Election 15: Circuit Judge 75 2020

The Circuit Judge (Group 75) race was between Rosy Aponte and Dava Tunis. Aponte won the Miami precincts with 56% of the vote. I find no clear evidence that Black voters preferred Aponte to Tunis. Aponte support among Black voters was 58%, which is lower than the 60% threshold. The Anglo-preferred candidate was Dava Tunis. The Latino-preferred candidate was Rosy Aponte.

I find evidence of racially polarized voting in this contest. The Latino-preferred candidate won.

Figure 26: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

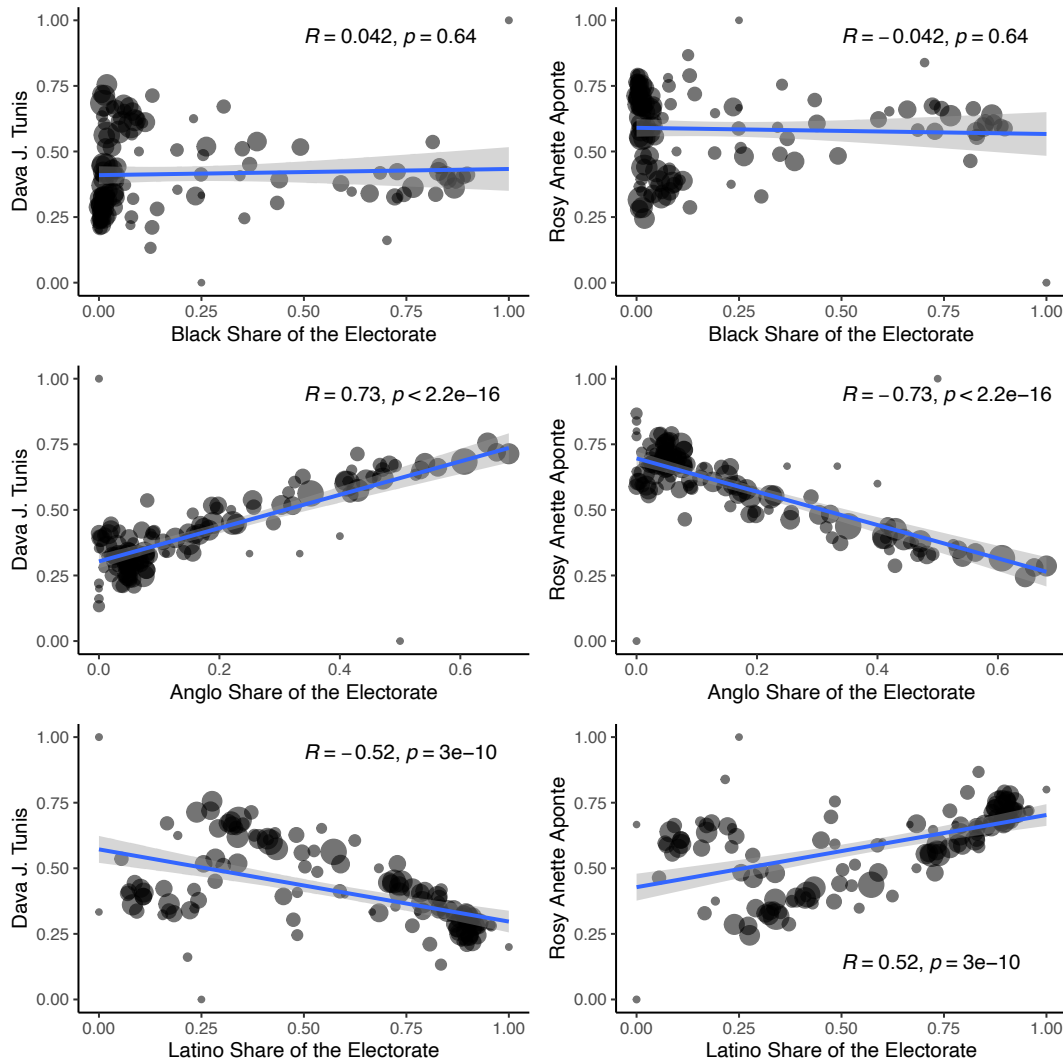
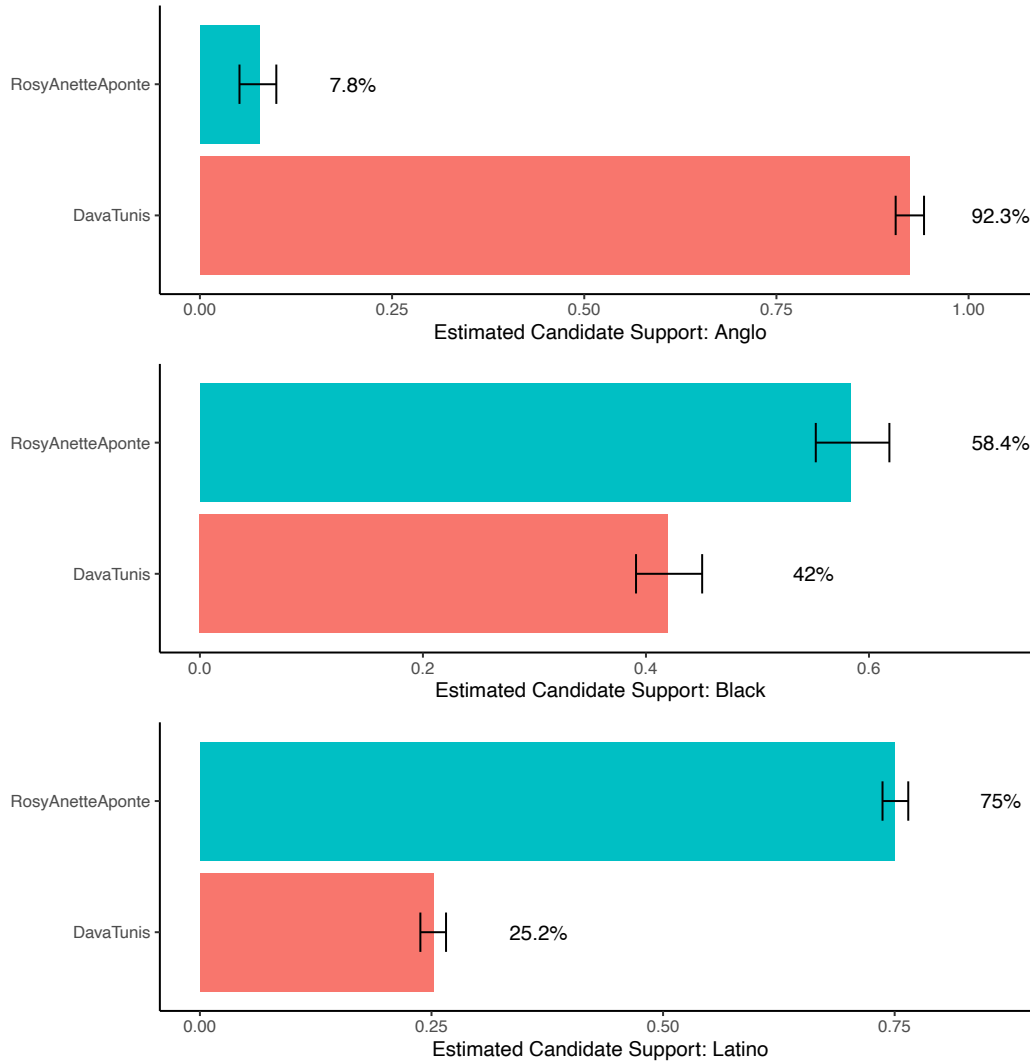


Figure 27: Estimated Candidate Support by Race/Ethnicity



6.16 Election 16: Circuit Judge (Group 67) 2020

The Circuit Judge (Group 67) contest was between Marcia Hansen and Mavel Ruiz. In Miami precincts, Mavel Ruiz won with 56.8% of the vote. The Black-preferred candidate was Hansen, while the Latino-preferred candidate was Ruiz. Anglos slightly preferred Ruiz (55%), but the evidence is inconclusive as it did not reach the threshold of 60%.

I find evidence of racially polarized voting in this contest. The Latino-preferred candidate won.

Figure 28: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

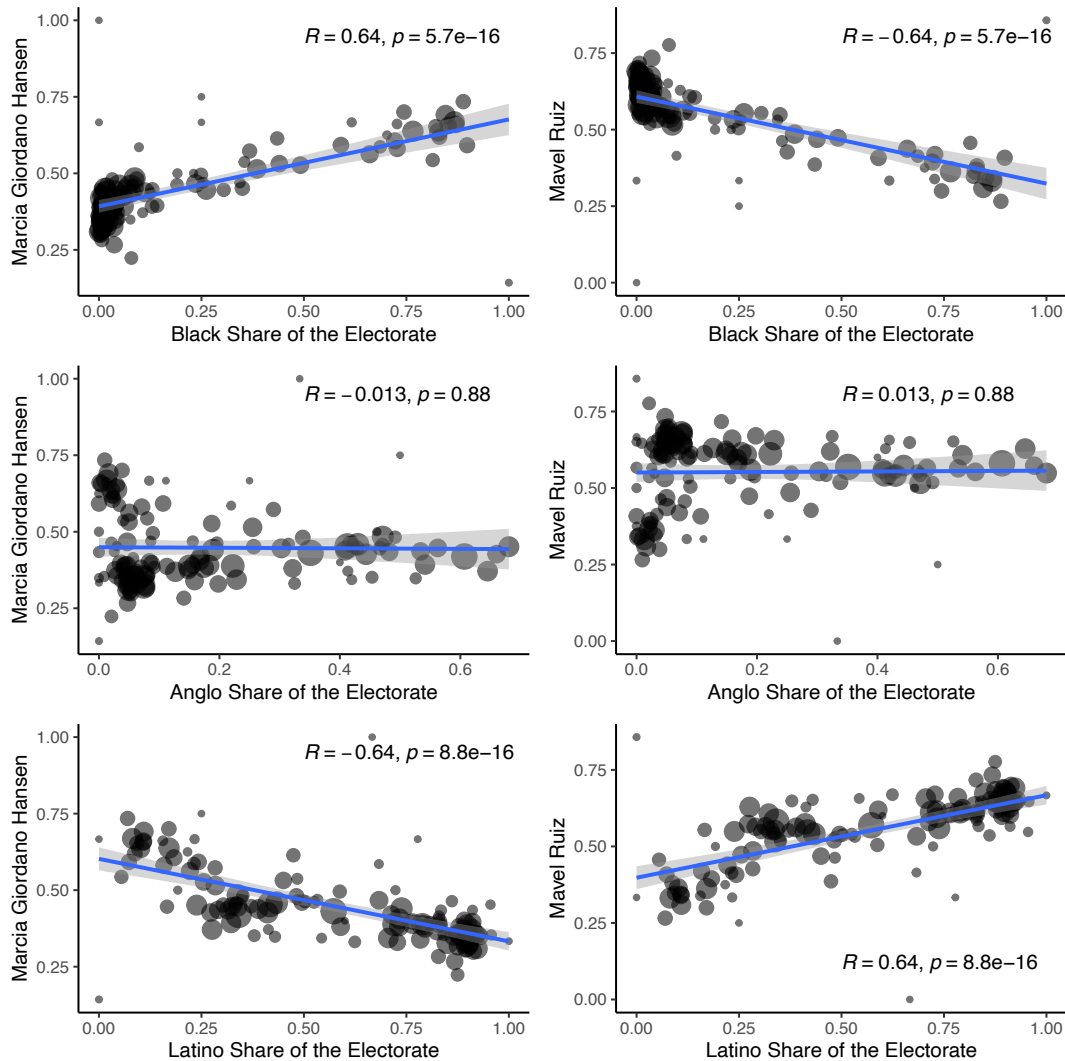
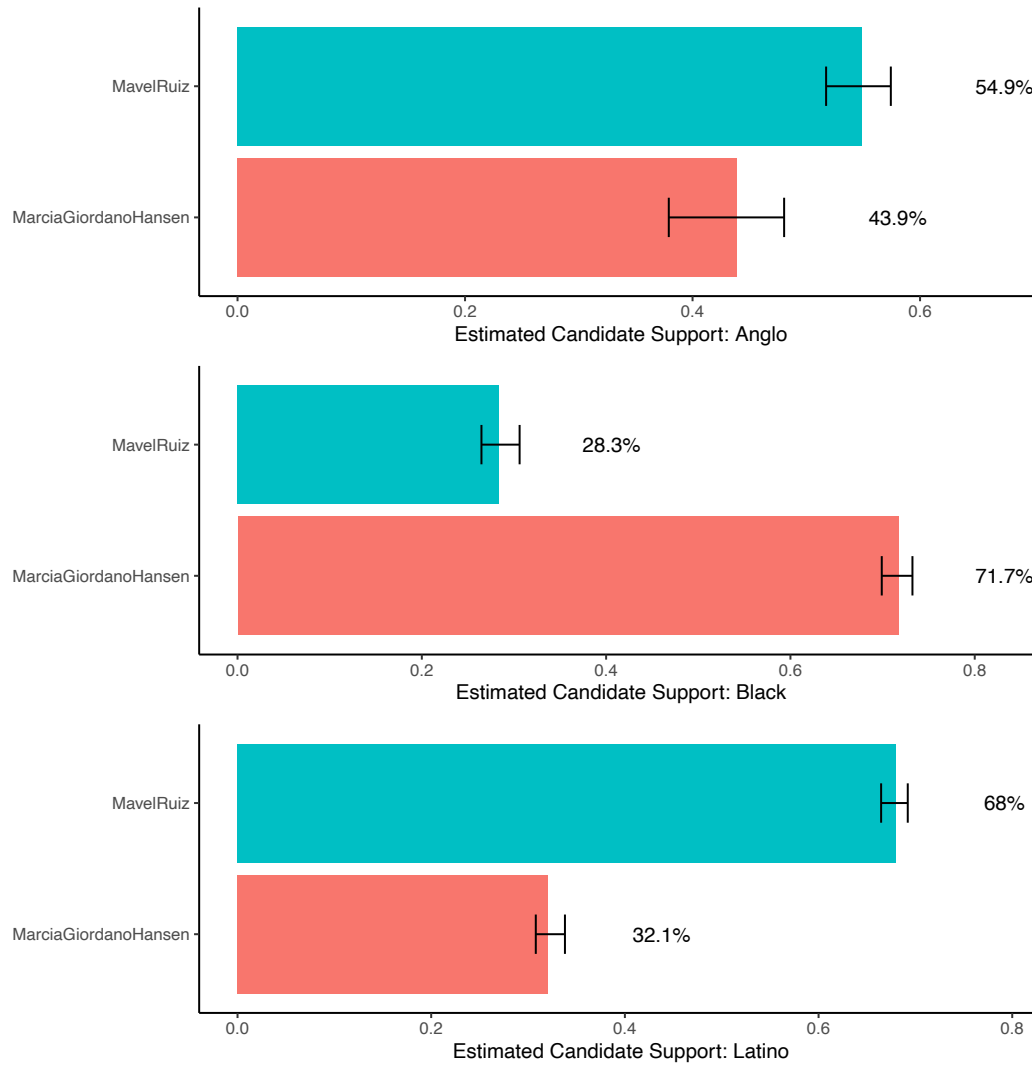


Figure 29: Estimated Candidate Support by Race/Ethnicity



6.17 Election 17: Circuit Judge (Group 65) 2020

The Circuit Judge (Group 65) election was between Denise Martinez-Scanziani and Thomas Rebull. If the contest was held in only Miami precincts, Martinez-Scanziani would have won with 51% of the vote. The Black-preferred candidate was Rebull, winning 59.8% of their vote. I do not find clear evidence that Latinos or Anglos had a preferred candidate. As shown in Figure 31, Anglos supported Rubell at 51.2%, and Latinos preferred Martinez-Scanziani at 56.5%. In all cases, support for the preferred candidate did not reach 60%.

I find no evidence of racially polarized voting in this contest.

Figure 30: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

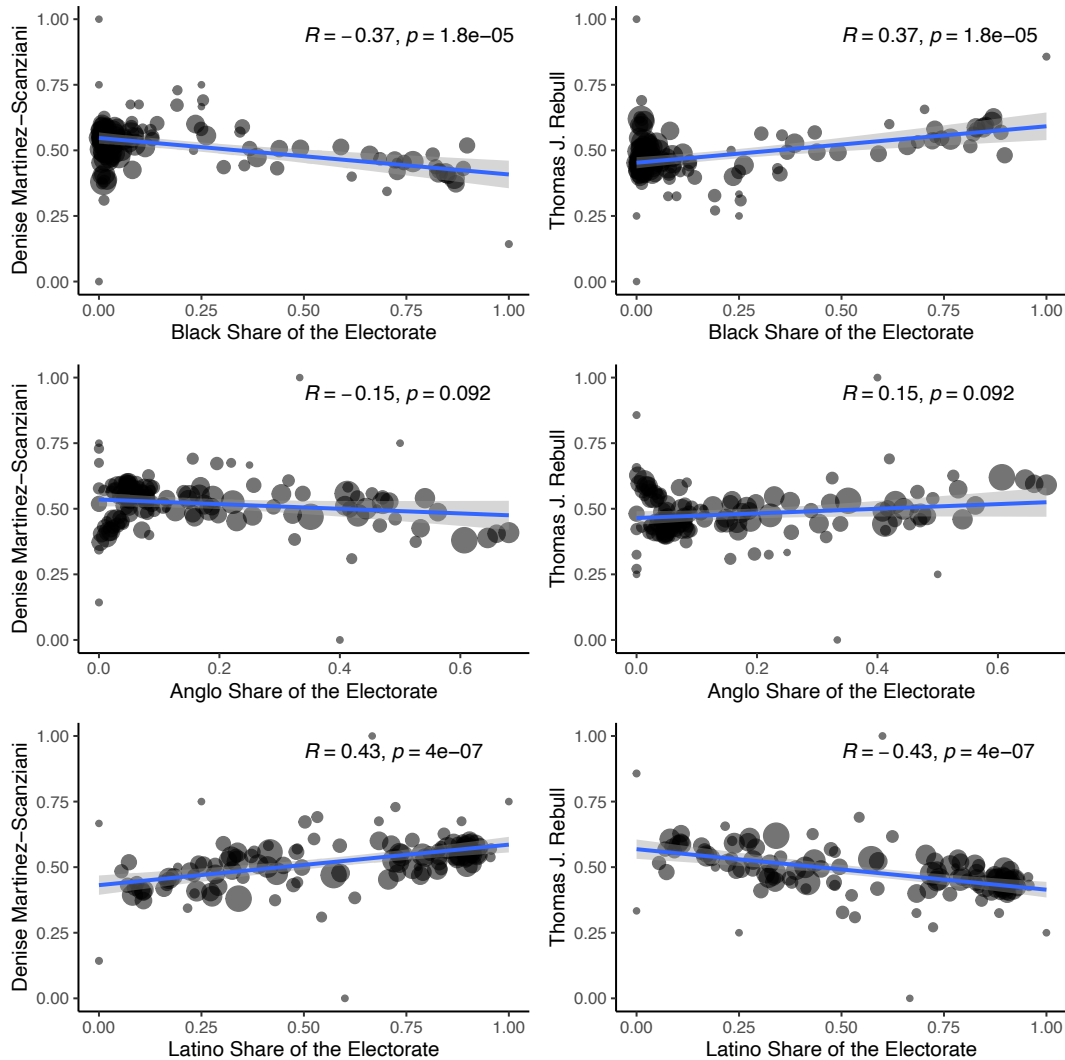
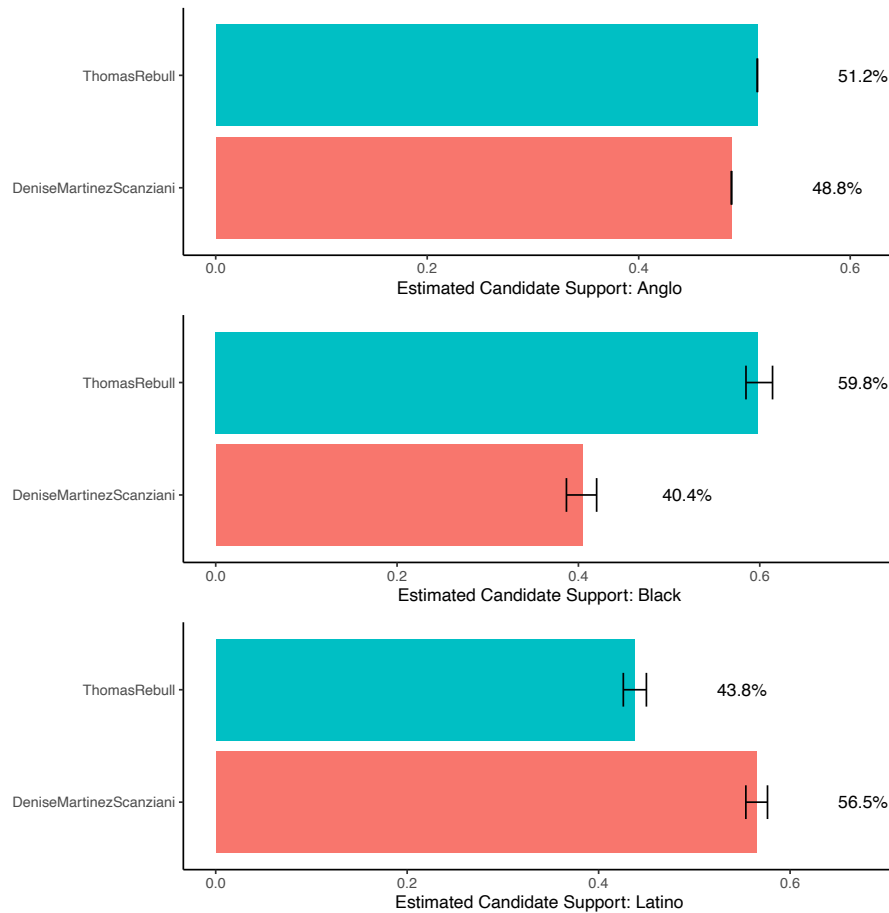


Figure 31: Estimated Candidate Support by Race/Ethnicity



6.18 Election 18: Circuit Judge (Group 57) 2020

The Circuit Judge (Group 57) election was between Carmen Cabarga and Roderick Vereen. Carmen Cabarga won Miami precincts with 56.6% of the vote. The Black and Anglo-preferred candidate was Roderick Vereen, while the Latino-preferred candidate was Carmen Cabarga.

I find evidence of racially polarized voting in this contest. The Latino-preferred candidate won.

Figure 32: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

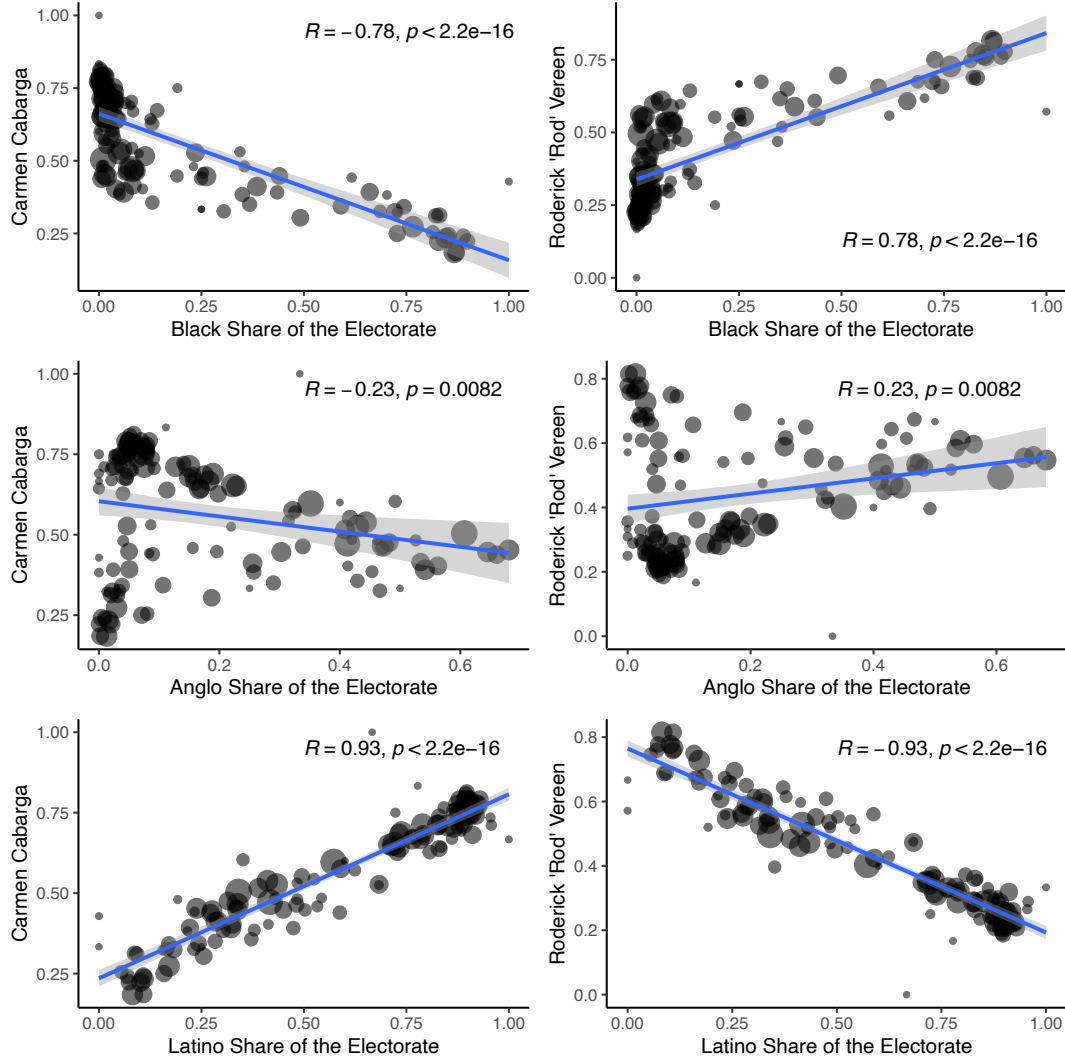
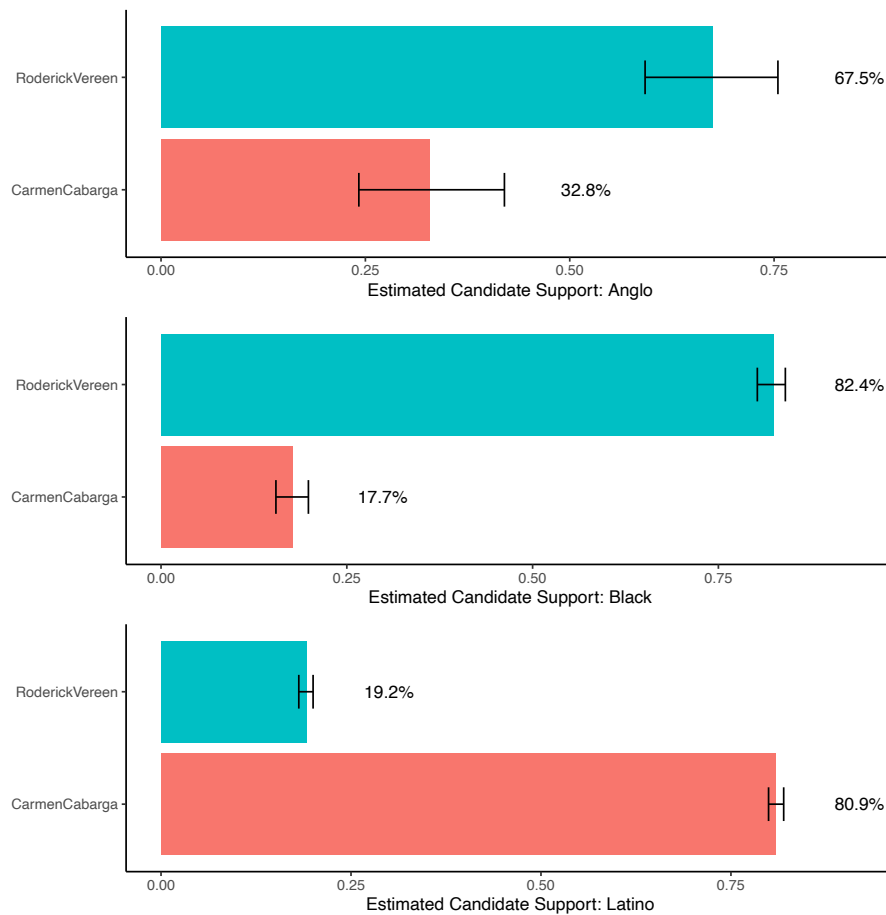


Figure 33: Estimated Candidate Support by Race/Ethnicity



6.19 Election 19: Circuit Judge (Group 55) 2020

The Circuit Judge (Group 55) contest was between Olanike Adebayo and Joe Perkins. Adebayo won Miami precincts with 51.4% of the vote. The Black and Anglo-preferred candidate was Adebayo. While both groups have higher than 60% cohesion in voting, the cohesion rate among Blacks were on the lower end of the spectrum (60.04%). The Latino-preferred candidate was Joe Perkins.

I find evidence of racially polarized voting in this contest. The Black and Anglo-preferred candidate won the Miami precincts.

Figure 34: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

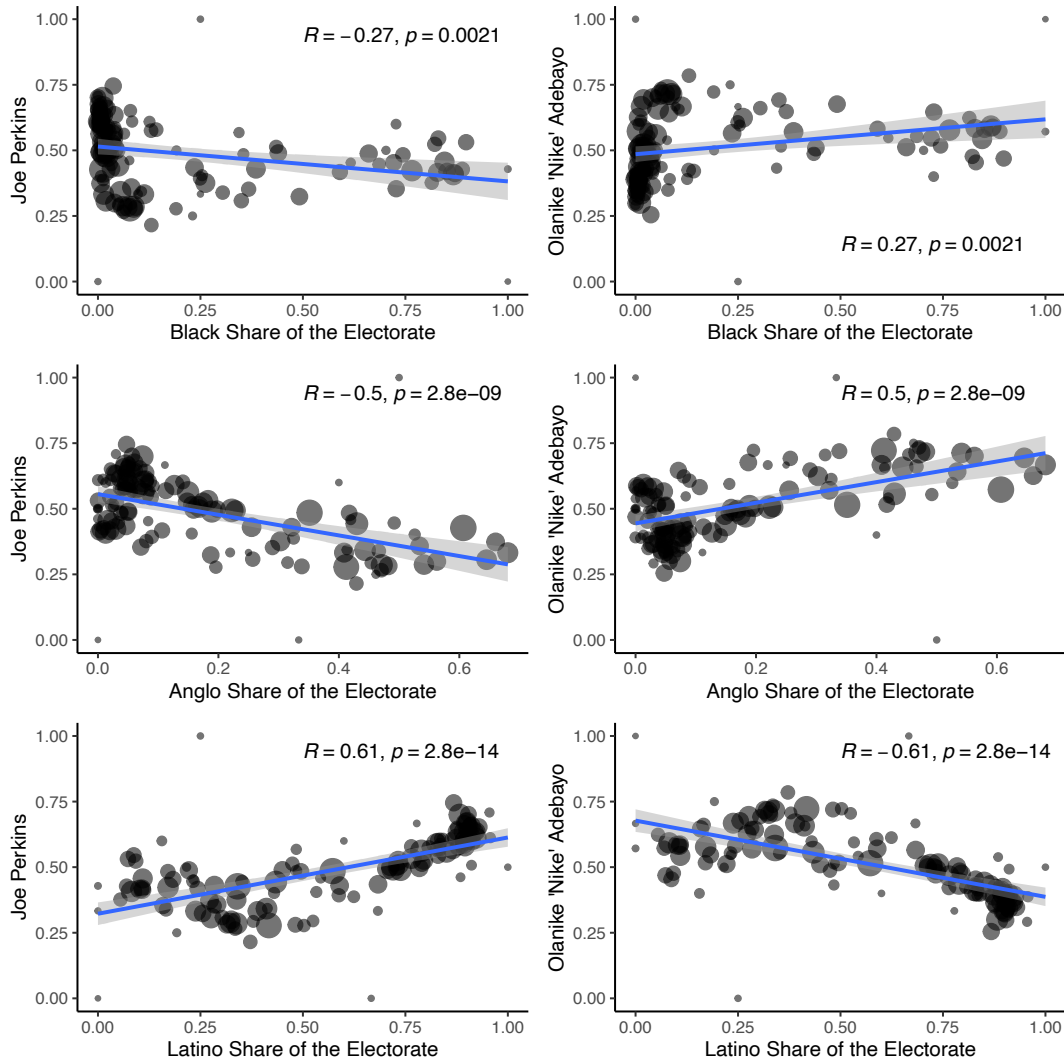
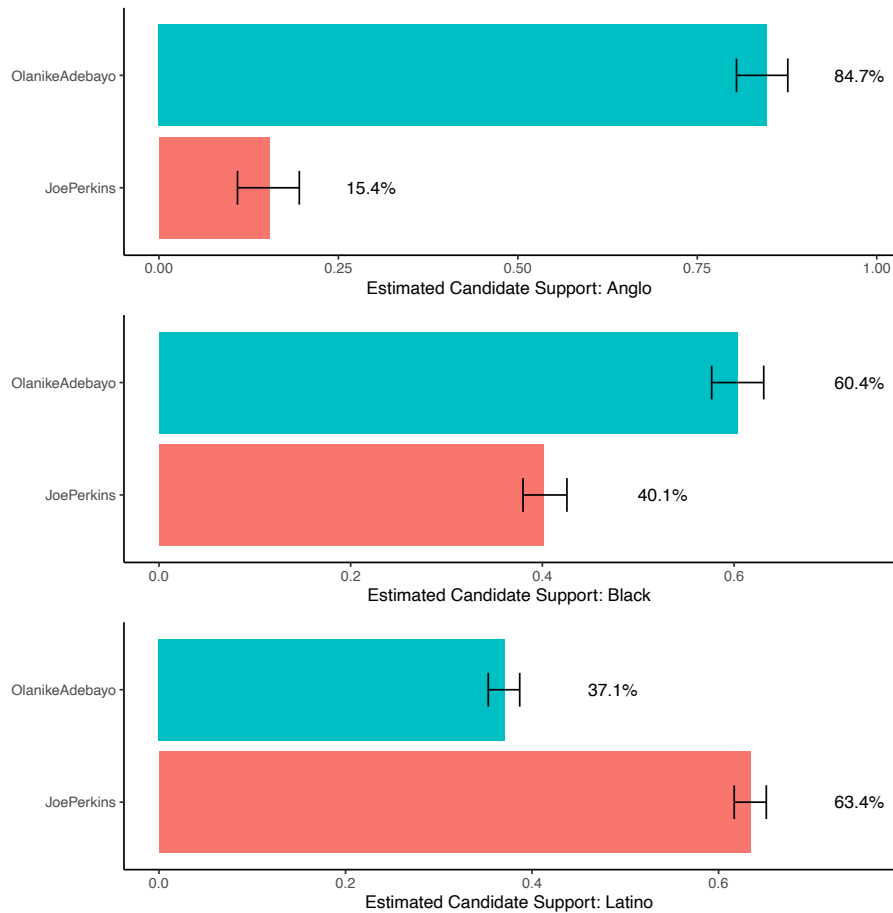


Figure 35: Estimated Candidate Support by Race/Ethnicity



6.20 Election 20: Governor 2018

The 2018 gubernatorial race was primarily between Ron Desantis (R) and Andrew Gillum (D). If the contest was held in only Miami precincts, Gillum would have won with 65% of the vote. In Figure 36, I plot the share of the electorate by ethnicity, and vote shares of the top two vote receiving candidates. There's sufficient evidence that Blacks and Anglos preferred Andrew Gillum to Ron DeSantis. However, Latinos support was split between DeSantis at 52.6% and Gillum at 45.4%. Thus, Latino support was not cohesive.

I find no evidence of racially polarized voting in this contest.

Figure 36: Scatterplot: Race/Ethnic Composition by Candidate Vote Share

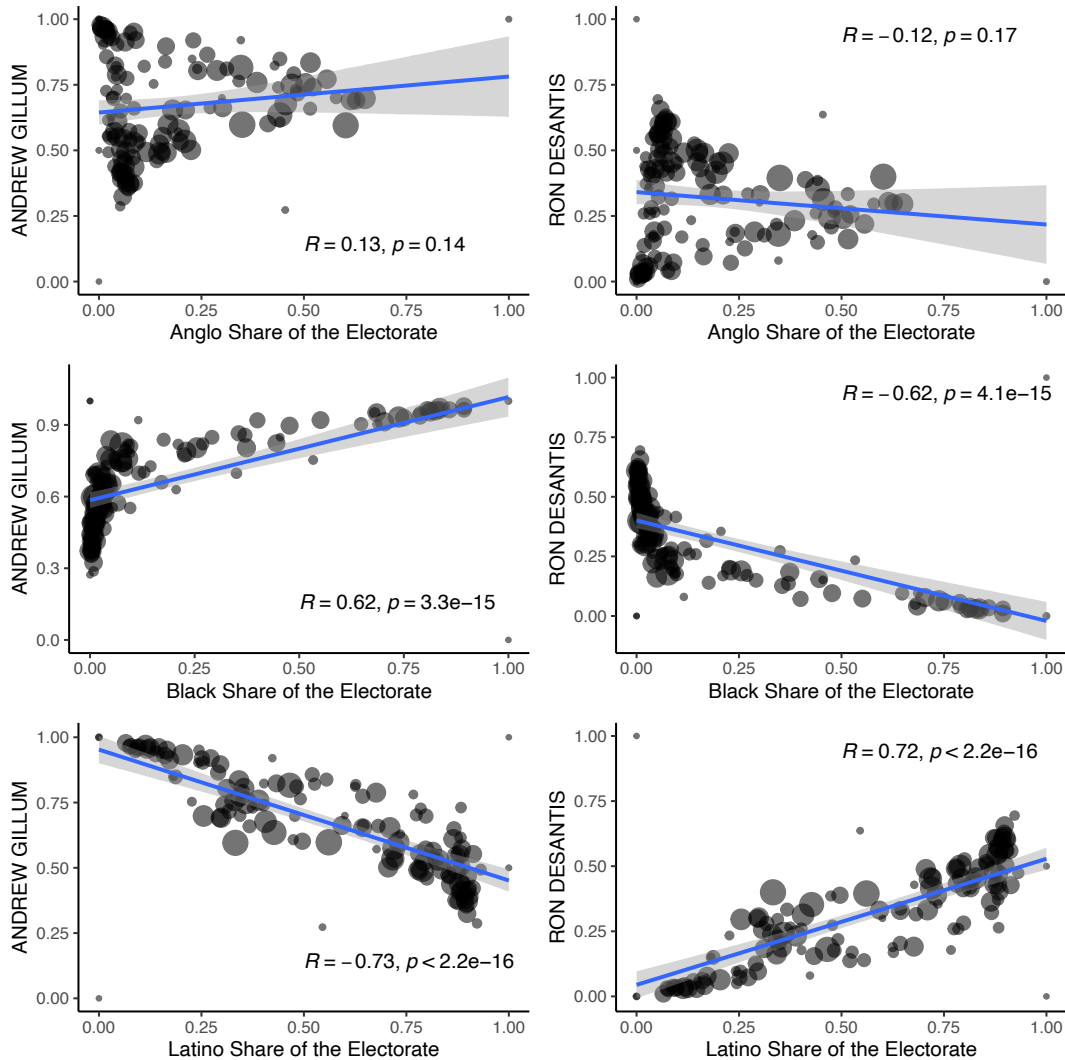
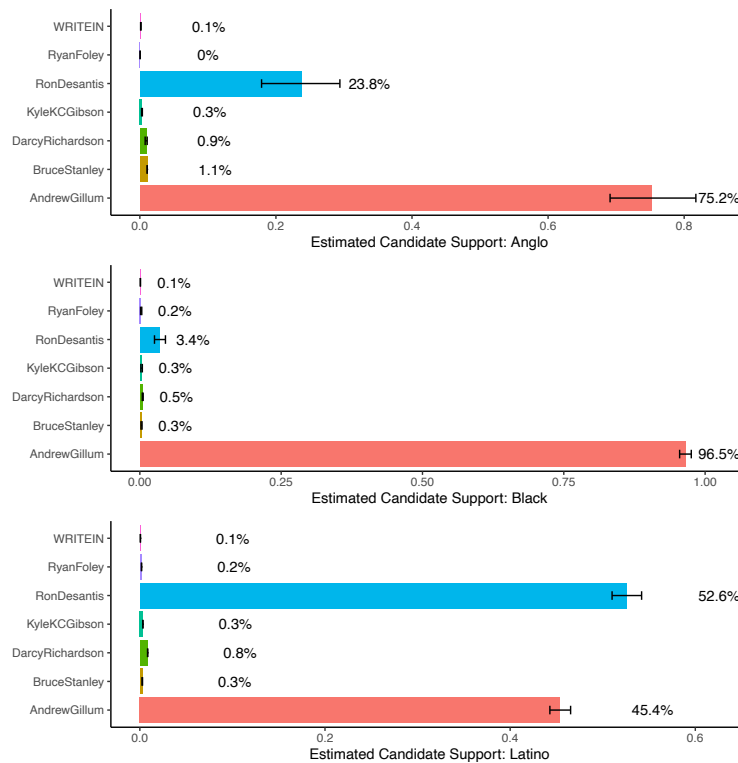


Figure 37: Estimated Candidate Support by Race/Ethnicity



7 Threshold Analysis

The analysis thus far provides evidence of racially polarized voting. With a sample of twenty elections in the City of Miami between 2017 and 2021, I found ten contests showing discernible patterns of racially polarized voting. In this section, I estimate the proportion of Black, Anglo, and Latino registered voters required for their preferred candidate to prevail.

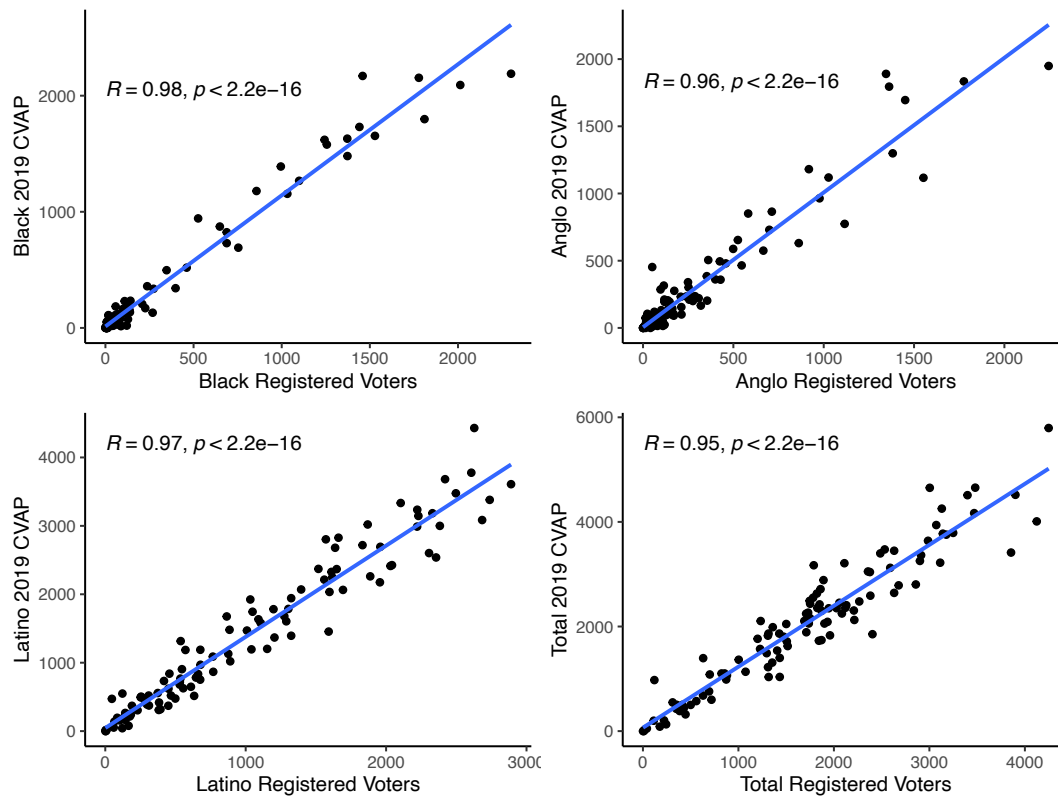
To estimate this threshold proportion, I need turnout by ethnicity, the proportion of registered voters by ethnicity, the estimated support of the group-preferred candidate, and the total number of registered voters in the area. These numbers come from two sources: (1) the turnout rates and the registered voter rate are taken from the voter file, and (2) the estimated support for the group's preferred candidate is derived from ecological inference. Using these quantities, I estimate the proportion of registered voters needed to elect the group-preferred candidate. In other words, this analysis will show how the Black-preferred candidate would have done if the share of Black registered voters varied. I do this analysis for all ethnic groups that have a preferred candidate.

It is important to note that I use registration numbers rather than citizen voting age population. Using registration rates by ethnicity provides a more accurate depiction of racially polarized voting at this level. Generally, the citizen voting age population is less precise at the precinct level, where much of our analysis primarily takes place. For example, a few precincts have more registered voters of a particular race than the estimated citizen voting age population.

In Figure 38, I plot the relationship between the number of registered voters in the precinct and the CVAP. They are correlated between .97 and .98. Furthermore, in Figure 39, I plot the same relationship using the group's share of registered voters and the group's share of CVAP. I again find a high correlation between the variables. Thus, I use the registered voters for my analysis. For reference, if you want to calculate the estimated share of Black CVAP from the Black share of registered voters, you will subtract 0.2 percentage points from the Black share of registered voters. For Anglos, you would subtract two percentage points from the Anglo share of registered voters to estimate the Anglo CVAP. Lastly, to estimate Latino

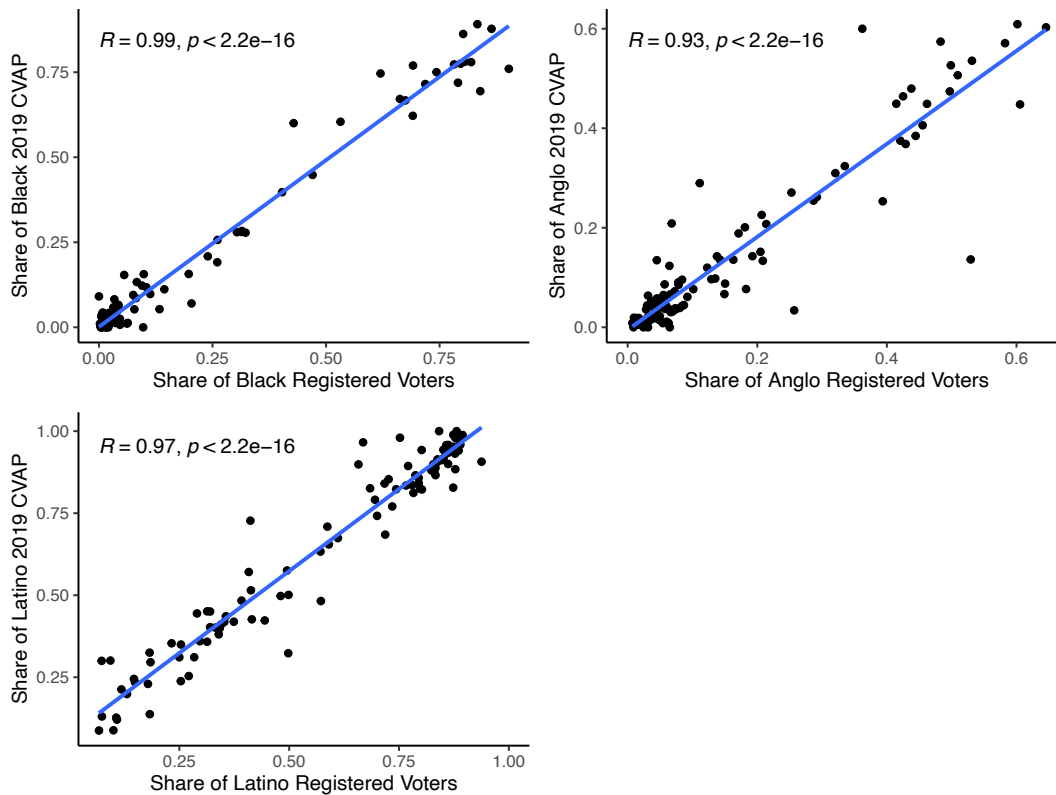
CVAP, you would add seven percentage points to the Latino CVAP.⁵

Figure 38: Registration and 2019 CVAP: Miami Precincts



5. Note that for Latinos, the share of Latino registered voters underestimates the CVAP.

Figure 39: Share of Registered Voters and Share of 2019 CVAP: Miami Precincts



I run and interpret results for the ten contests exhibiting racially polarized voting patterns. For ease and reliability of computation, I estimate the vote share as if only three ethnic groups were voting: Blacks, Anglos, and Latinos.

Interpreting the Threshold Plots. If the contest had a group-preferred candidate, I estimate the proportion of registered voters needed for that candidate to be elected with a majority vote. The x-axis is the group's share of the registered voters. The y-axis is the preferred candidate's estimated vote share. The black line is how the share of registered voters translates to a candidate's vote share. I draw a dashed line across the 50% vote share to indicate when the candidate reaches a majority. I draw a vertical red line at the point where the candidate is elected.

The blue line will show the composition of the voting electorate. For example, the point at which the grey and blue lines intersect should be interpreted as the electorate's composition when their preferred candidate wins. Furthermore, when the blue line is above the black line, the ethnic group's preferred candidate is receiving above-average support from other groups. We expect this to be the case when two groups share the same preferred candidate.

7.1 City Commissioner District 3 2021

The contest for City Commissioner District 3 in 2021 showed patterns of racially polarized voting. The Anglo-preferred candidate was Quinn Smith, while the Latino-preferred candidate was Joe Carollo. Joe Carollo won the contest. Latinos made up 84% of the registered voters in this district. As shown in Figure 40, Latinos would need to be 61% of the registered voters for their preferred candidate (Carollo) to win.

For the Anglo-preferred candidate to prevail, they would need to 48% of the registered voting population (See Figure 41). Anglos are currently 12% in this district. While there is slight evidence that Black's preferred Smith to Carollo, they did not make up a sufficient amount in any precinct to provide reliable results.

Figure 40: Latino-Preferred Candidate Carollo

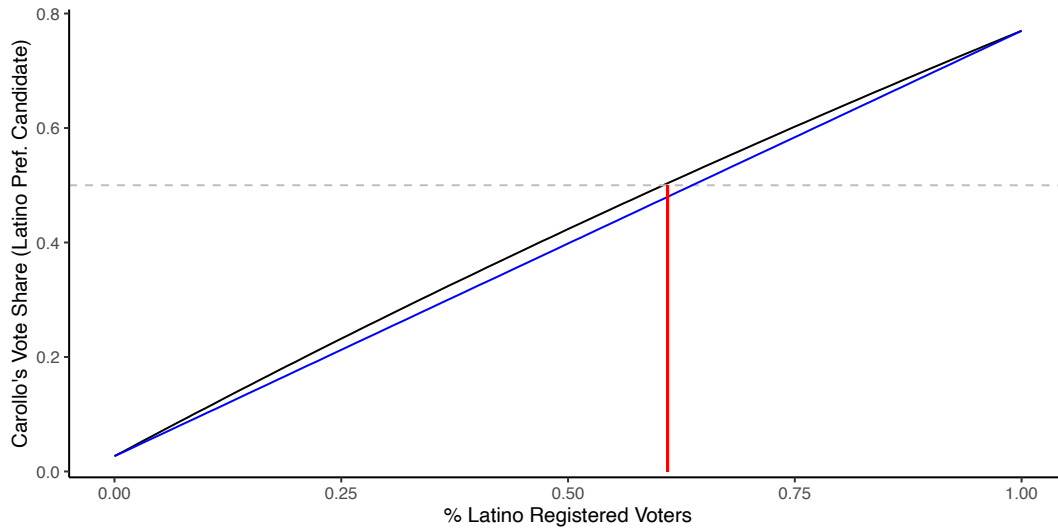
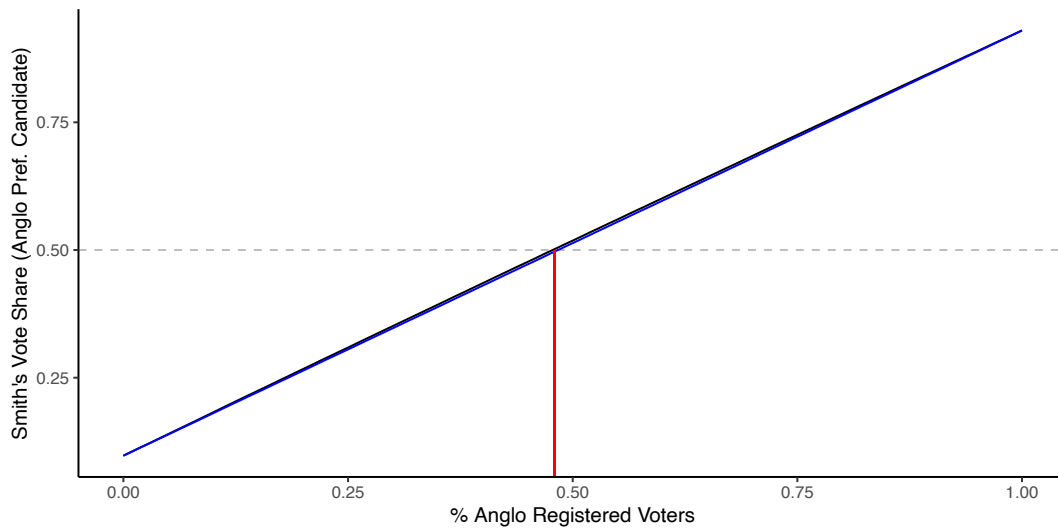


Figure 41: Anglo-Preferred Candidate Smith



7.2 City Commissioner District 3 2017

The contest for City Commissioner District 3 in 2017 showed patterns of racially polarized voting. The Latino-preferred candidate was Joe Carollo, while the Anglo- and Black-preferred candidate was Alfonso Leon. The Latino-preferred candidate prevailed. Latinos make up 79% of the district. As shown in Figure 42, Latinos need to make up about 77% of the registered voters for their candidate to receive 50% of the vote. When the Latino-preferred candidate wins, the Latino share of the electorate is about 83%.

For the Anglo-preferred candidate to prevail, Anglos need to make up 72% of the registered voters (See Figure 43). When the Anglo-preferred candidate wins, the Anglo share of the electorate is 19%. For the Black-preferred candidate to prevail, Blacks need to make up 26% of the registered voters (See Figure 44). When the Black-preferred candidate wins, the Black composition of the electorate is about 10%. This suggests that the Black-preferred candidate has larger than average support from other racial groups. In this case, the Anglo- and Black-preferred candidates are the same.

Figure 42: Latino-Preferred Candidate Carollo

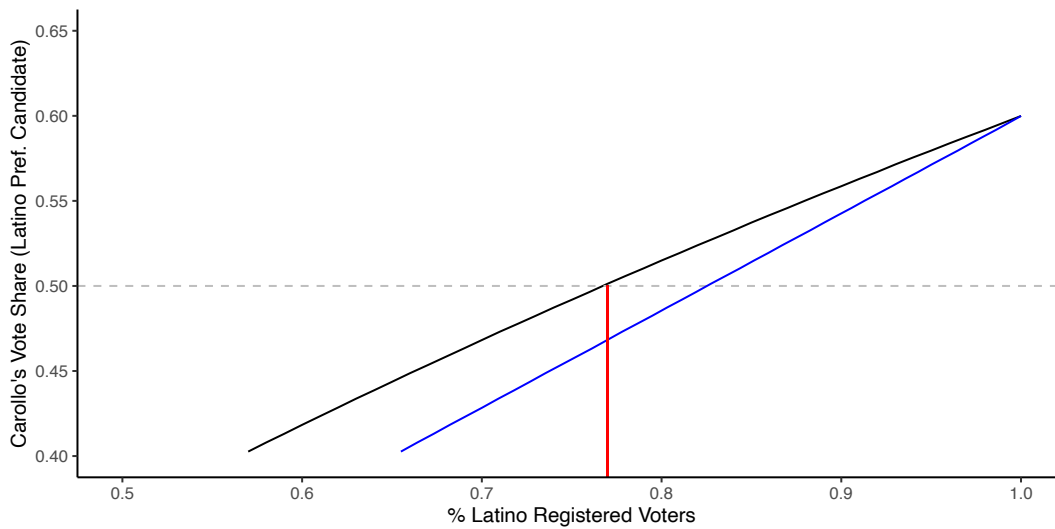


Figure 43: Anglo-Preferred Candidate Leon

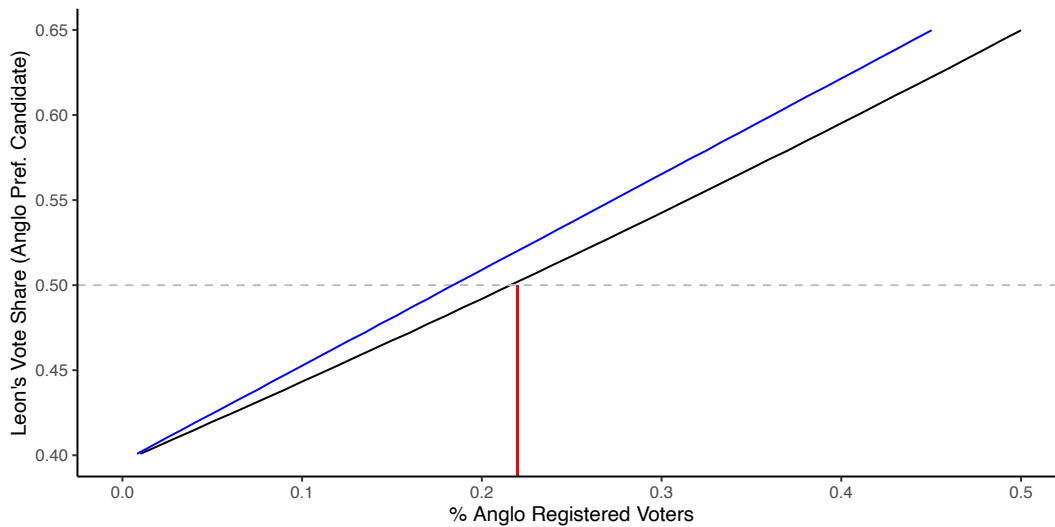
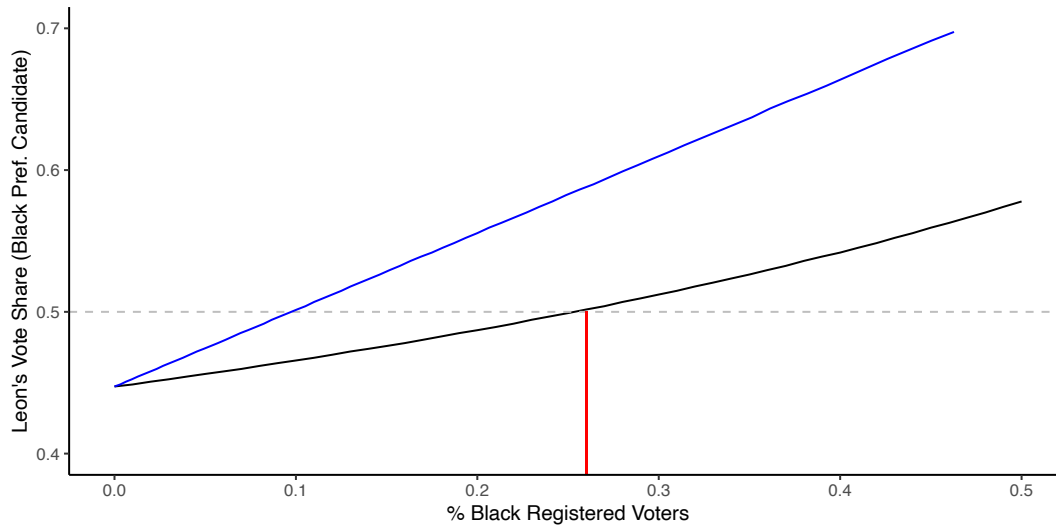


Figure 44: Black-Preferred Candidate Leon



7.3 County Commissioner District 3

The contest for County Commissioner District 3 in 2020 showed patterns of racially polarized voting. The Black-preferred and Latino-preferred candidate was Keon Hardemon. The Anglo-preferred candidate was Gepsie Metellus. Across all levels of Black share and Latino share of registered voters, the Black preferred candidate prevails (See Figures 45 and 46). The Anglo-preferred candidate needs Anglo voters to make up 60% of the registered voter population to win a majority. When the Anglo-preferred candidate wins, they will make up 63% of the voting electorate.

Figure 45: Black-Preferred Candidate

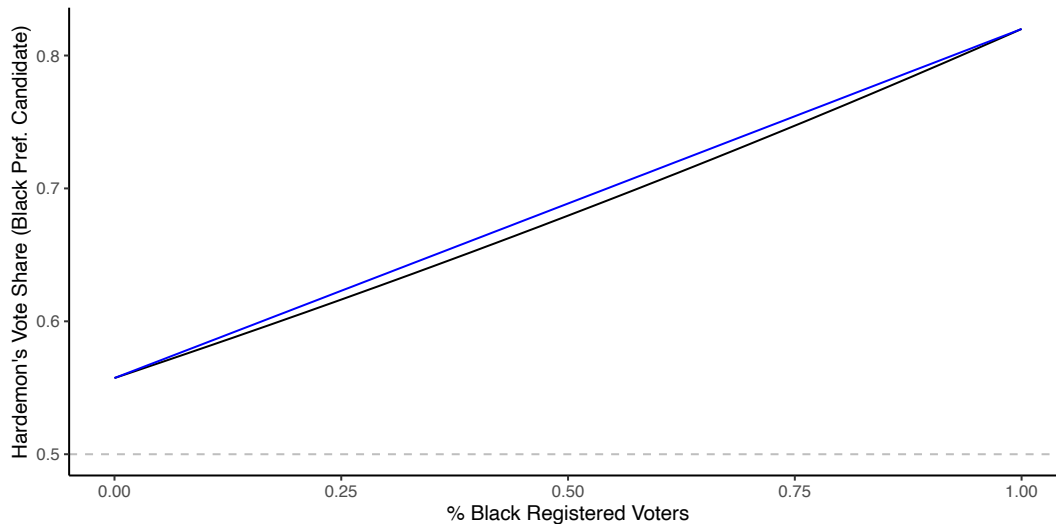


Figure 46: Latino-Preferred Candidate

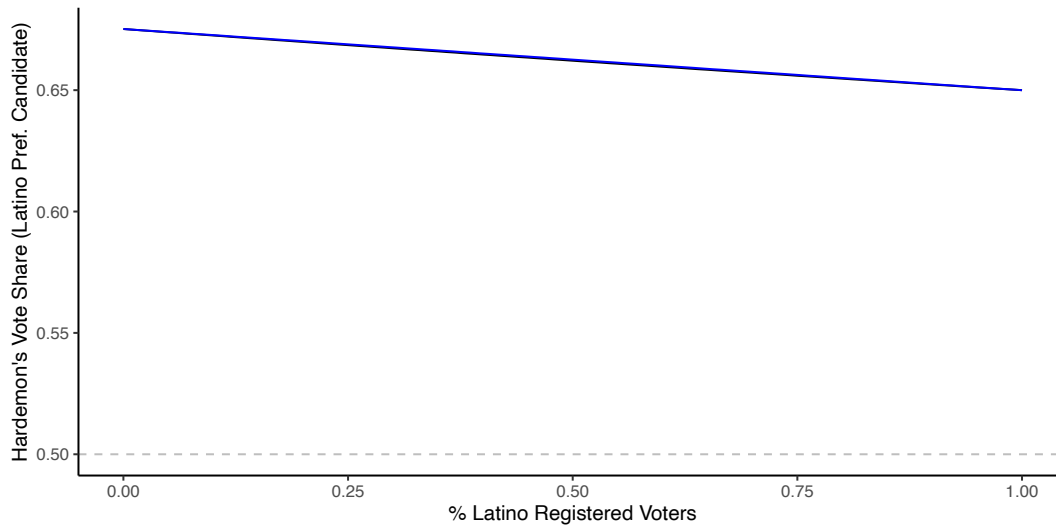
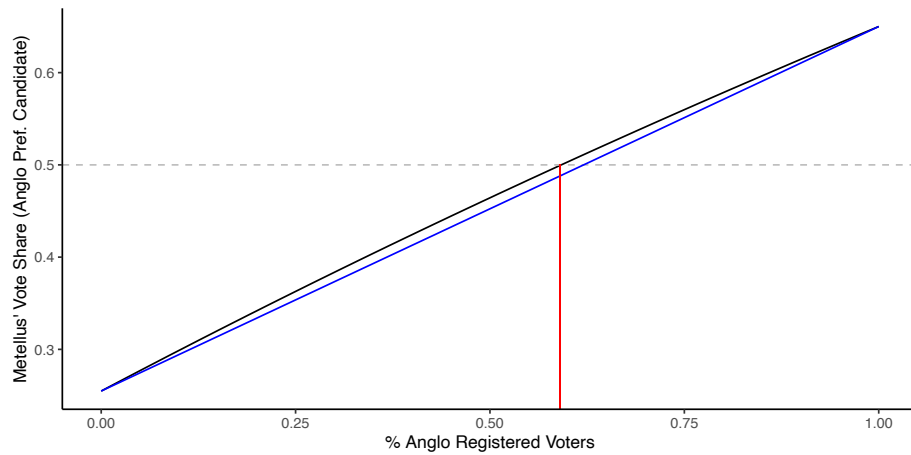


Figure 47: Anglo-Preferred Candidate



7.4 County Mayor 2020

The contest for County Mayor in 2020 showed signs of racially polarized voting. The Black and Anglo-preferred candidate was Levine Cava while the Latino-preferred candidate was Bovo. For the Black-preferred candidate to prevail, Blacks must make up 8% of the registered voter population. Similarly, the Anglo-preferred candidate must make up 2% of the registered voting population to prevail. For the Latino-preferred candidate to prevail, they must make up 74% of the registered voter population.

Figure 48: Black-Preferred Candidate

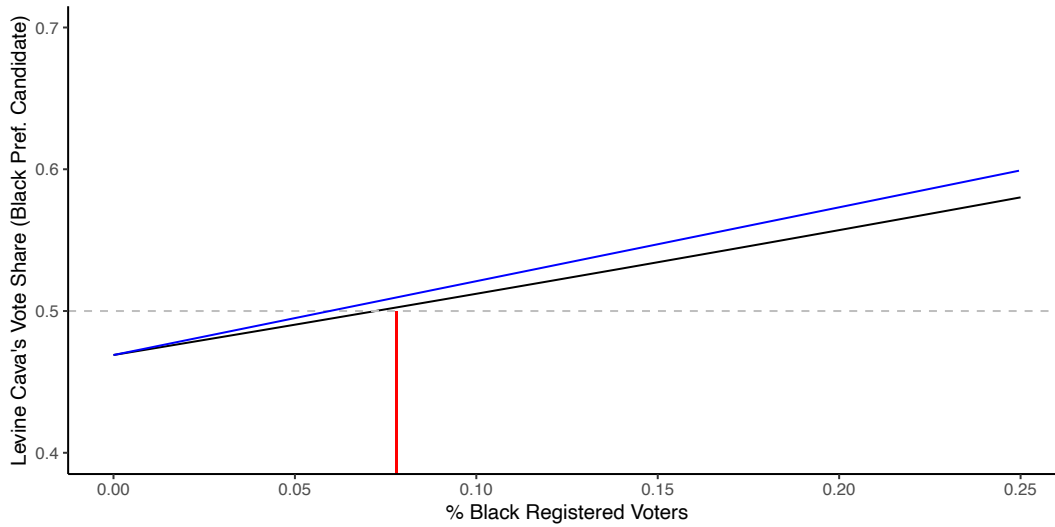


Figure 49: Anglo-Preferred Candidate

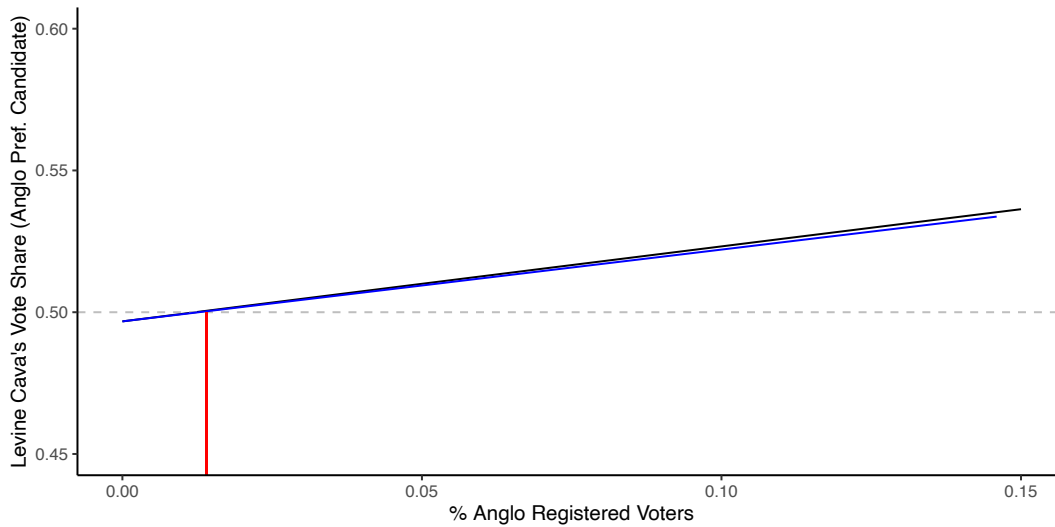
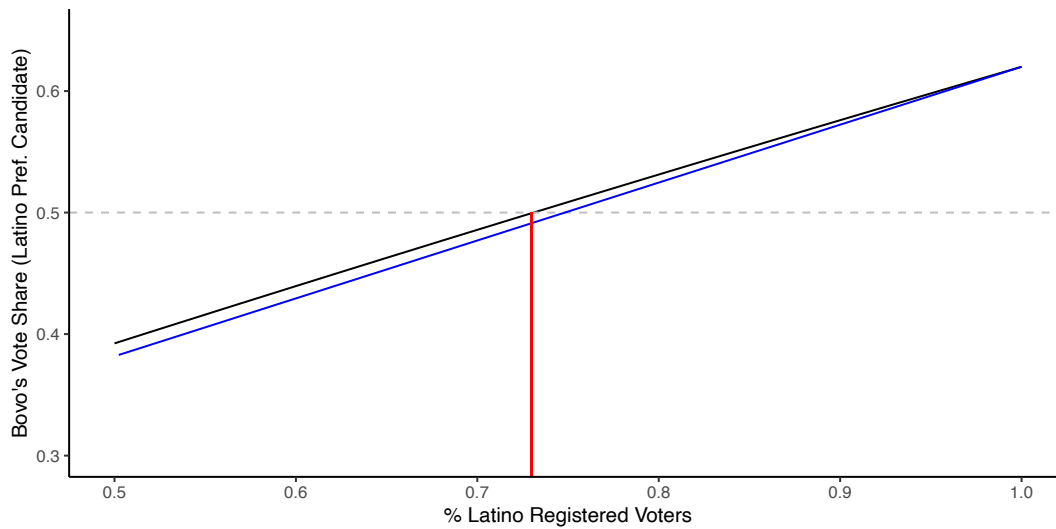


Figure 50: Latino-Preferred Candidate



7.5 Presidential 2020

The Presidential race in 2020 showed signs of racially polarized voting. The Black- and Anglo-preferred candidate was Biden. The Latino-preferred candidate was Trump. For the Black-preferred candidate to win, the Black share of the registered voter population must reach 5%. Similarly, the Anglo share of the registered voter population must reach 4% for the Anglo-preferred candidate to win. For the Latino-preferred candidate to win, Latinos must make up 77% of the registered voter population.

Figure 51: Black-Preferred Candidate

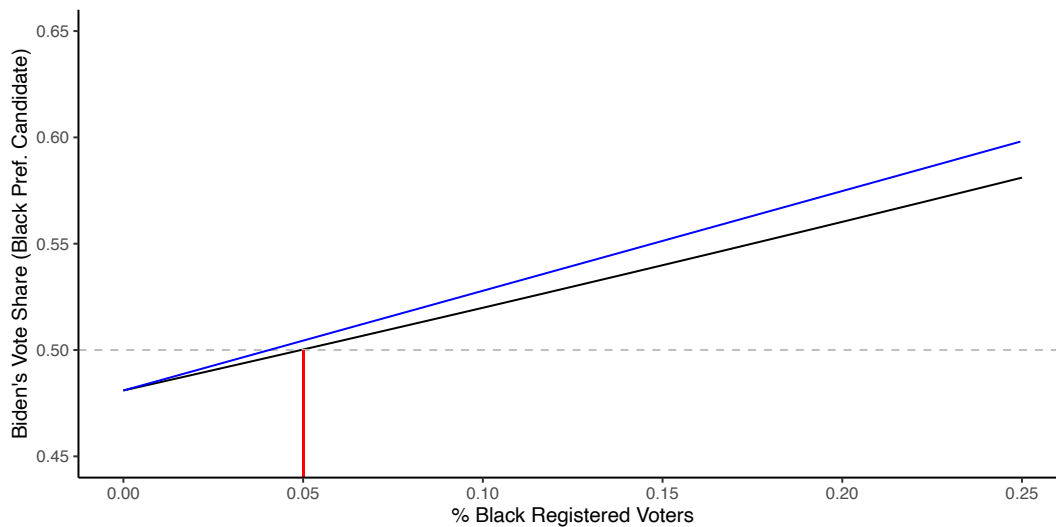


Figure 52: Anglo-Preferred Candidate

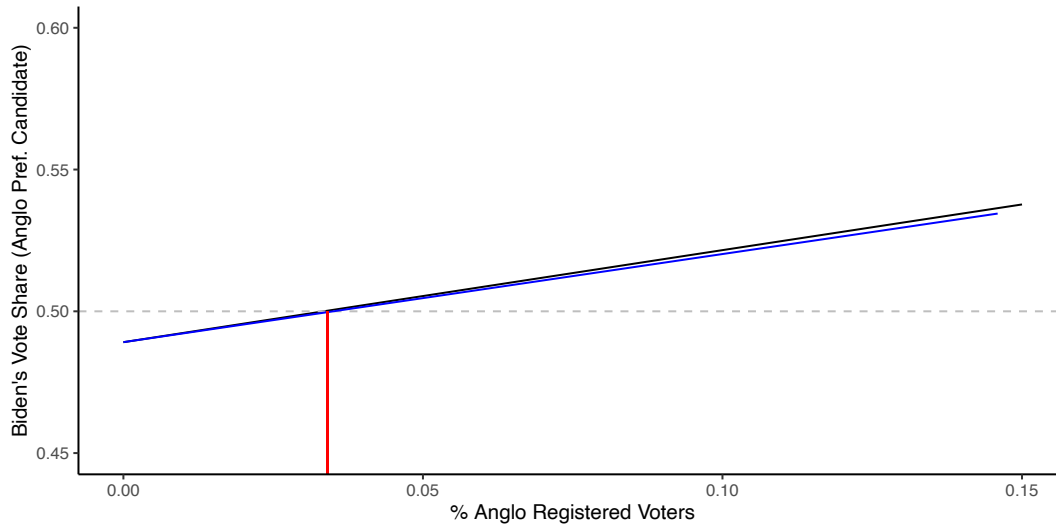
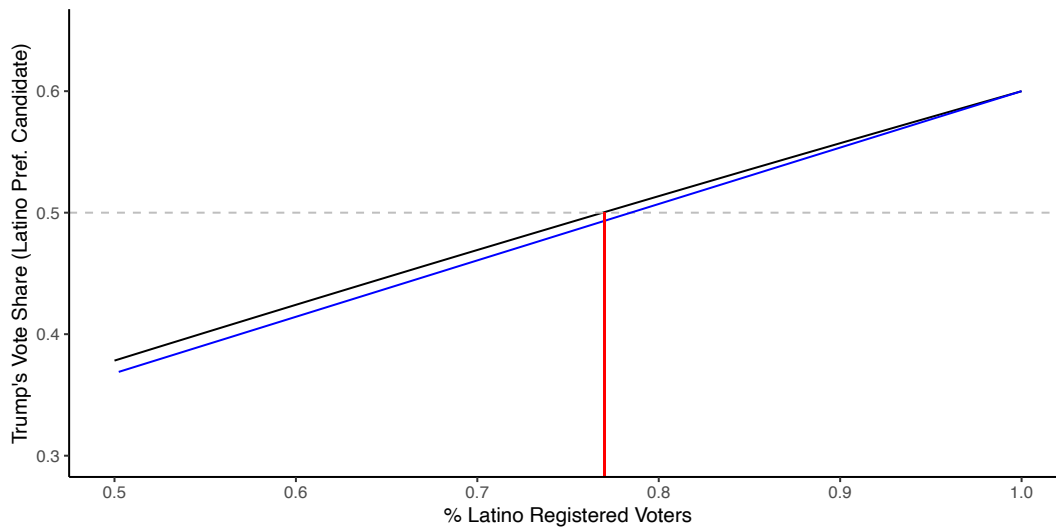


Figure 53: Latino-Preferred Candidate



7.6 County Judge (Group 9) 2020

The County Judge (Group 9) election showed signs of racially polarized voting. The Black and Anglo-preferred candidate was Mansfield. The Latino-preferred candidate was Mirabal. For the Black-preferred candidate to win, the Black share of the registered voter population must reach 30%. Similarly, the Anglo share of the registered voter population must reach 33% for the Anglo-preferred candidate to win. For the Latino-preferred candidate to win, Latinos must make up 77% of the registered voter population.

Figure 54: Black-Preferred Candidate

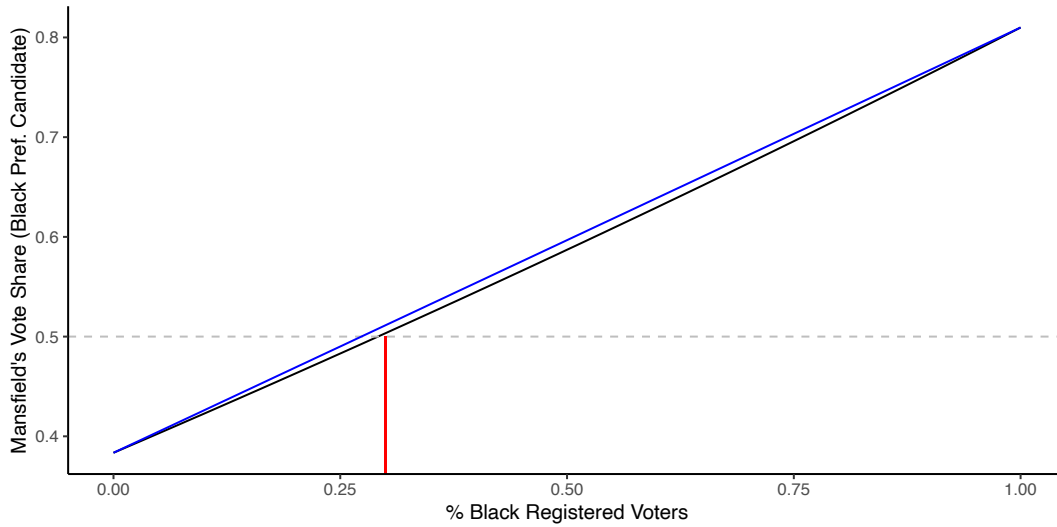


Figure 55: Anglo-Preferred Candidate

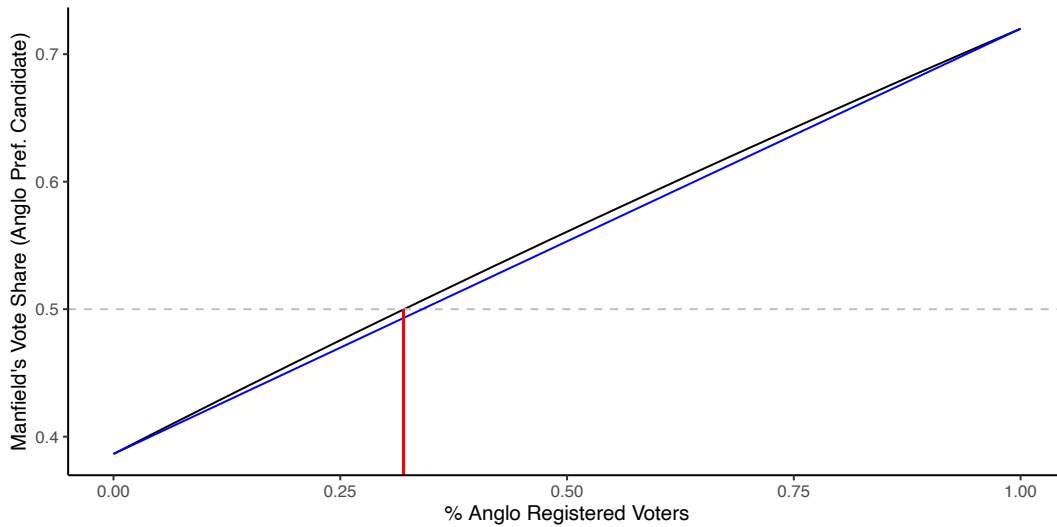
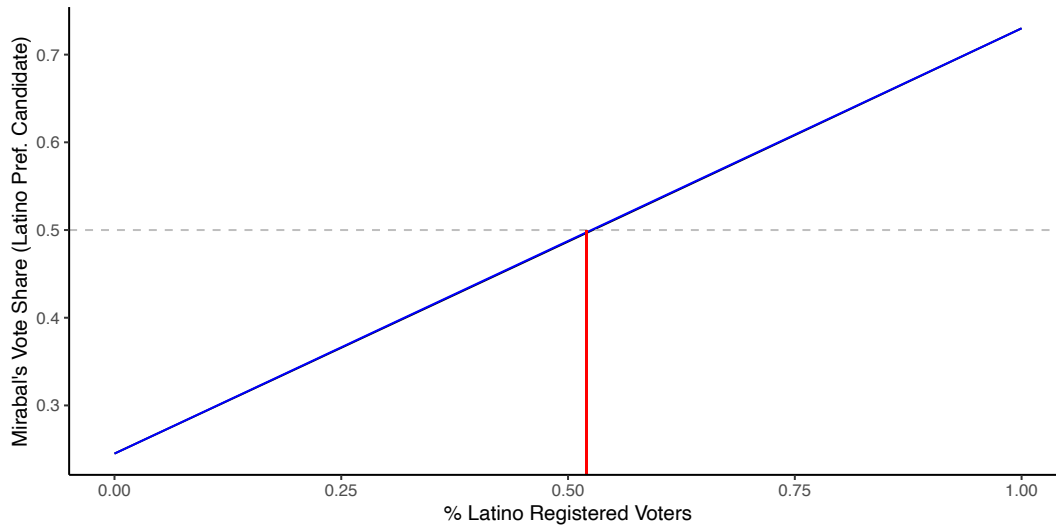


Figure 56: Latino-Preferred Candidate



7.7 Circuit Judge 75

The Circuit Judge (Group 75) contest showed signs of racially polarized voting. The Anglo-preferred candidate was Dava Tunis, and the Latino-preferred candidate was Aponte. While there is suggestive evidence that Black's preferred Aponte to Tunis, the results did not meet the 60% threshold. As such, I analyze the Anglo and Latino composition of the registered population. For the Anglo-preferred candidate to win, the Anglo share of the registered voter population must reach 32%. For the Latino-preferred candidate to win, Latinos must make up 44% of the registered voter population.

Figure 57: Anglo-Preferred Candidate

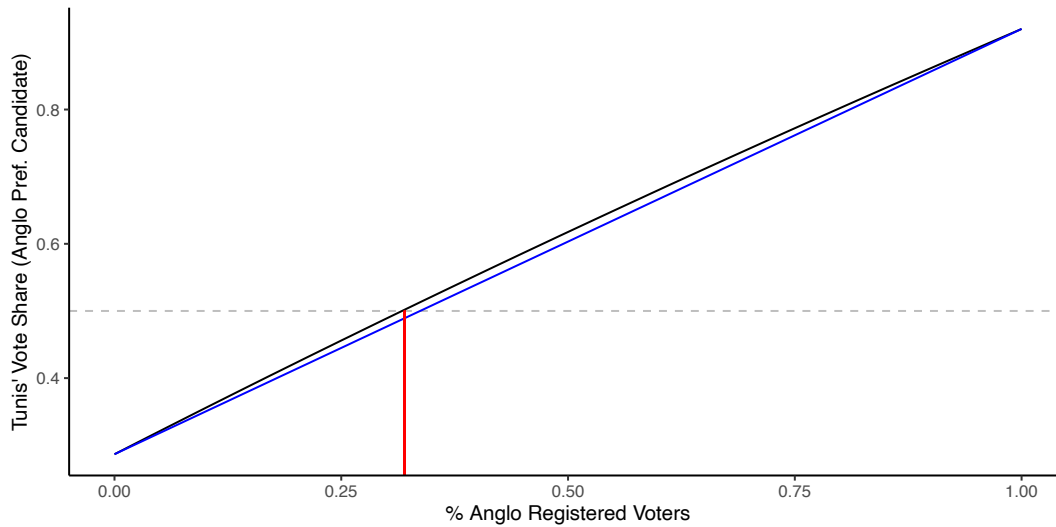
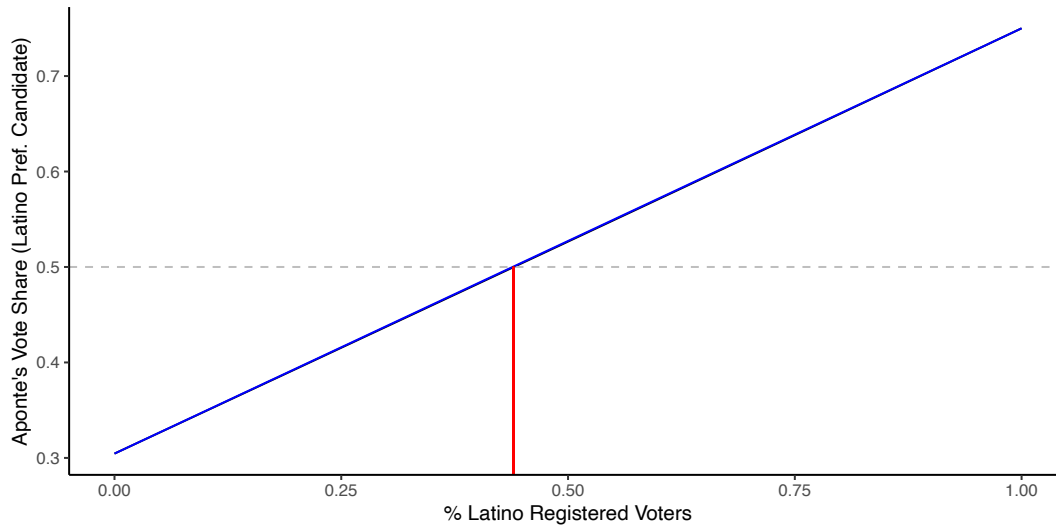


Figure 58: Latino-Preferred Candidate



7.8 Circuit Judge (Group 67) 2020

The Circuit Judge (Group 67) contest showed signs of racially polarized voting. The Black-preferred candidate Marcia Giordano Hansen, while the Latino-preferred candidate was Mavel Ruiz. There's suggestive evidence that Anglo's preferred Ruiz to Hansen, but Anglo cohesion did not reach 60%. For the Black-preferred candidate to prevail, Blacks must make up 43% of the registered population. For the Latino-preferred candidate to win, they must make up 29% of the registered population.

Figure 59: Black-Preferred Candidate

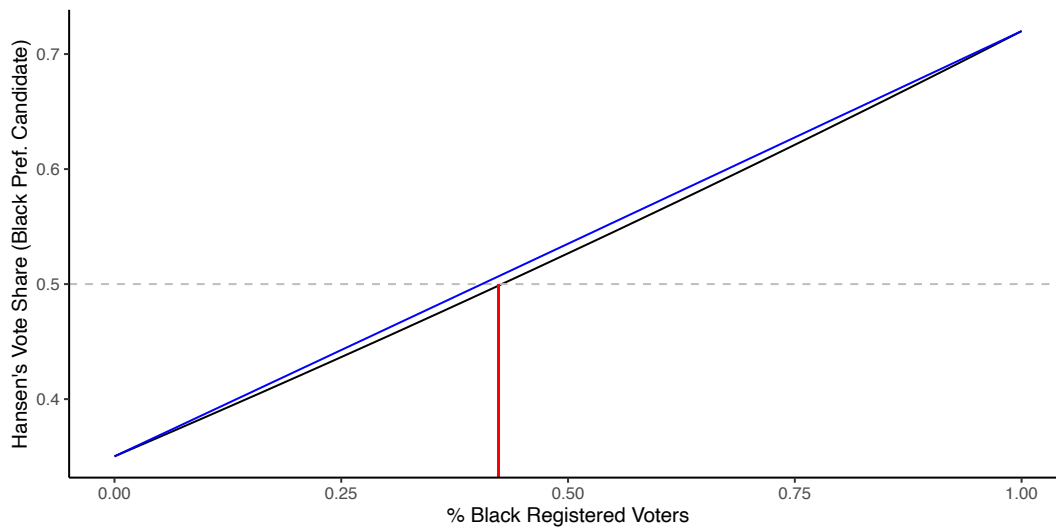
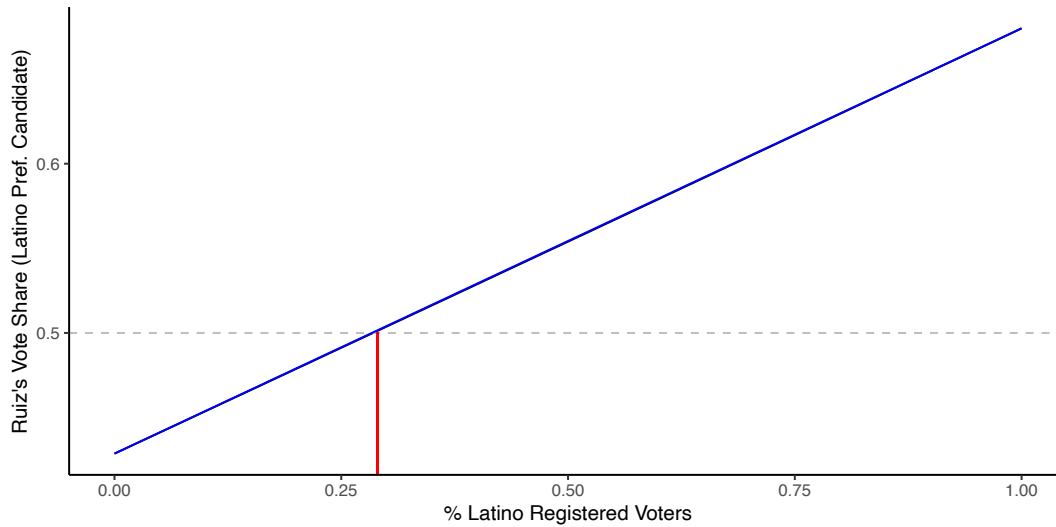


Figure 60: Latino-Preferred Candidate



7.9 Circuit Judge 57

The Circuit Judge (Group 57) contest showed signs of racially polarized voting. The Anglo- and Black-preferred candidate was Vereen, while the Latino-preferred candidate was Cabarga. For the Black-preferred candidate to prevail, Blacks must make up 49% of the registered voter population. For the Anglo-preferred candidate to prevail, Anglos must achieve 38% of the population. For the Latino-preferred candidate to prevail, they must be 44% of the registered voter population.

Figure 61: Black-Preferred Candidate

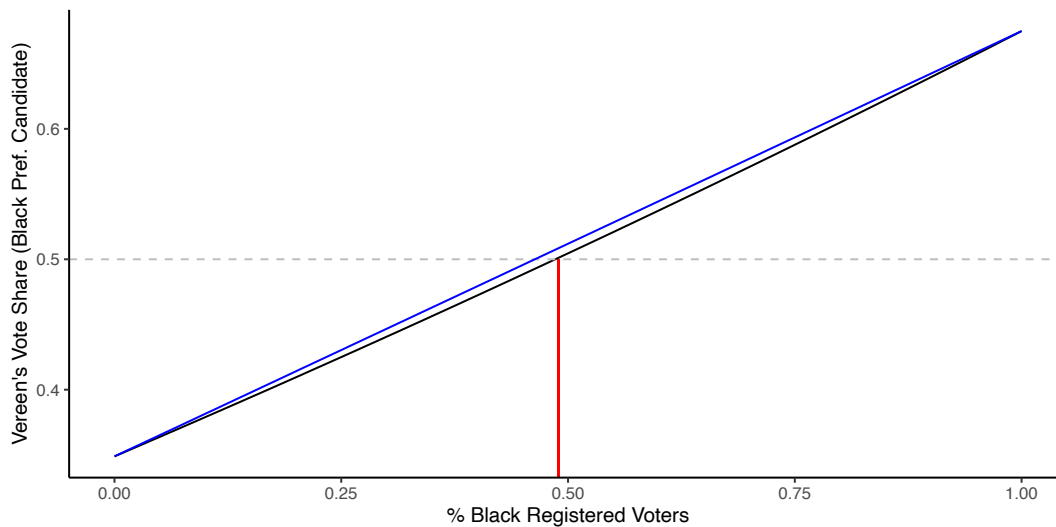


Figure 62: Anglo-Preferred Candidate

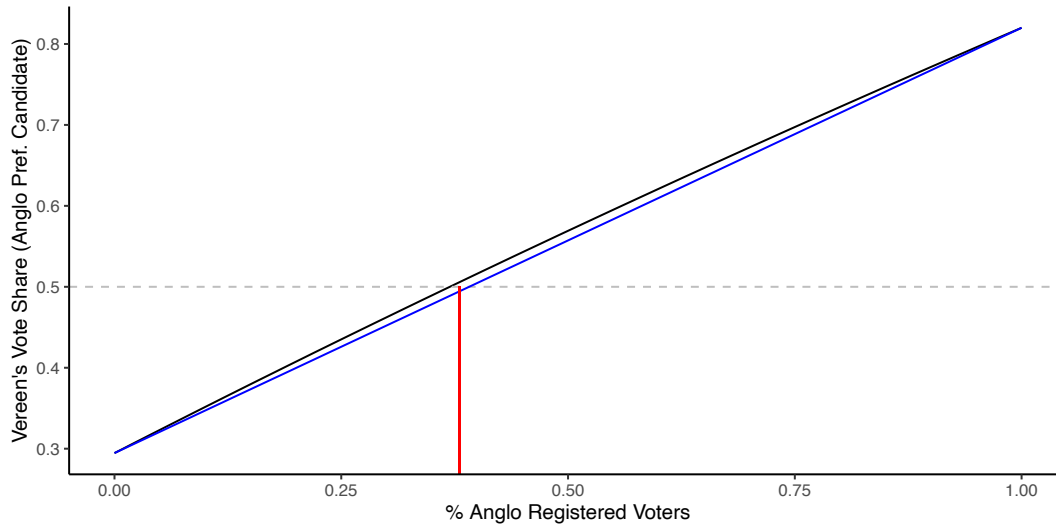
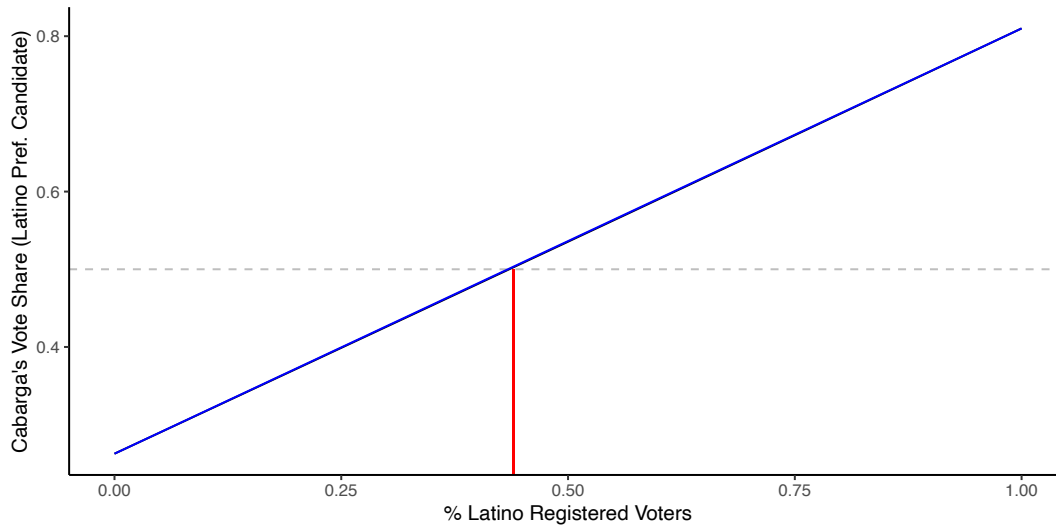


Figure 63: Latino-Preferred Candidate



7.10 Circuit Judge (Group 55)

The Circuit Judge (Group 55) contest showed signs of racially polarized voting. The Black- and Anglo-preferred candidate was Olanike Adebayo, while the Latino-preferred candidate was Joe Perkins.

The Black-preferred candidate prevails when their registration share is 12%. For the Anglo-preferred candidate to win, they must reach 18% of the registered voter population. For the Latino-preferred candidate to prevail, the Latino share of the registered voting population must reach 65%.

Figure 64: Black-Preferred Candidate

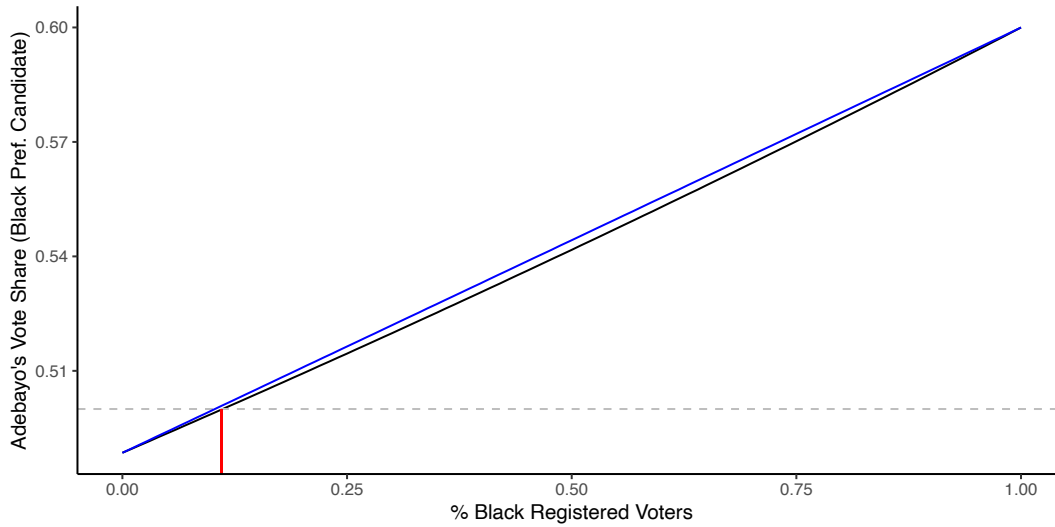


Figure 65: Anglo-Preferred Candidate

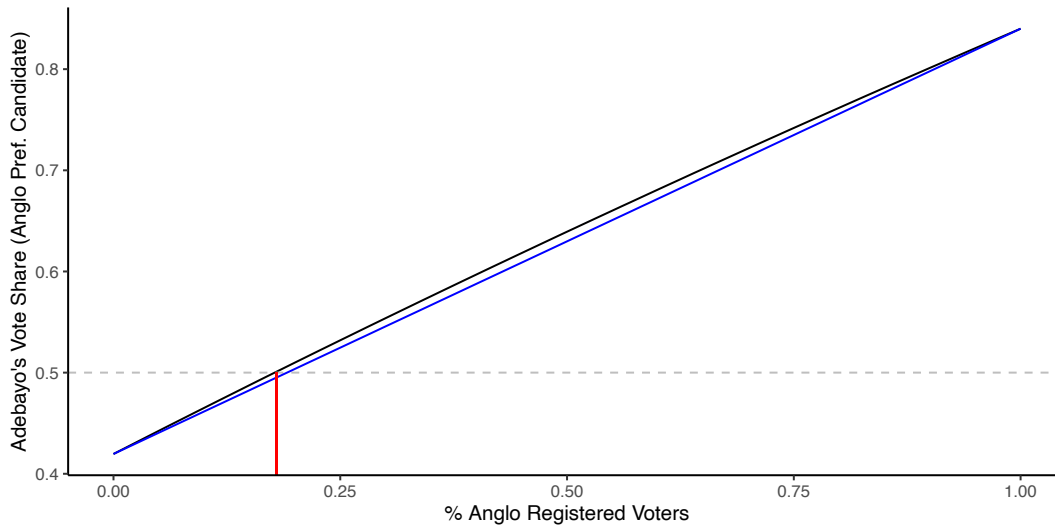
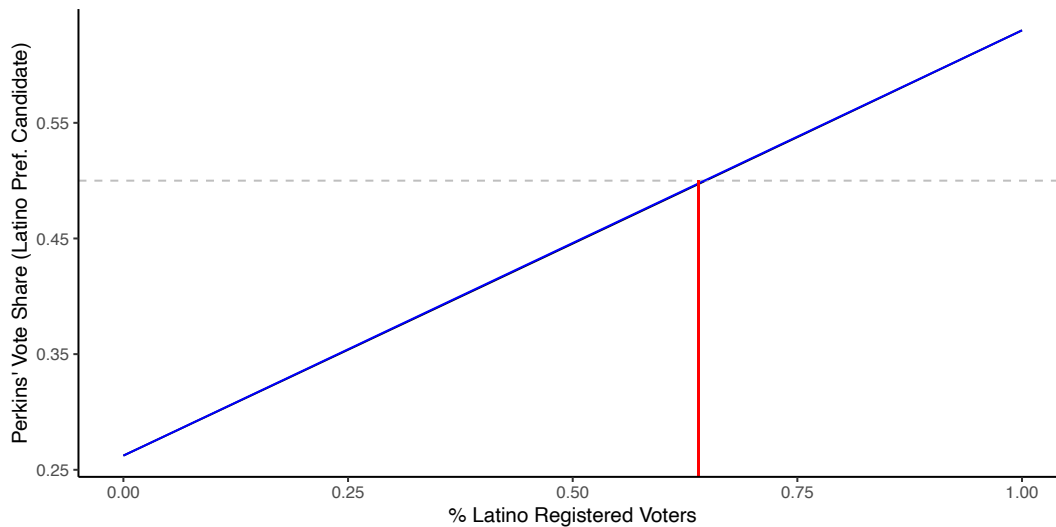


Figure 66: Latino-Preferred Candidate



8 Summary

This report aims to determine whether and to what extent racially polarized voting exists in Miami, Florida. Using data from Miami-Dade County's Elections Department, I examine twenty races between 2017 and 2021. Six of the twenty races were endogenous (municipal elections), and fourteen were exogenous.

I evaluate racially polarized voting using two methods. First, I create bivariate scatterplots between the demographic composition of the turnout and candidate vote share. A group cohesively supports a candidate if their support – in homogenous precincts – reaches 60% or greater. Second, I use ecological inference from the eiPack package to estimate the level of support each candidate received from each racial group. Where the method provides interpretable 95% confidence bands, I display the results. My results are robust across both methods.

I find evidence of racially polarized voting in half of the contests analyzed. One-third (2/6) of the endogenous races can be characterized as racially polarized, while 57% (8/14) of exogenous races were polarized. Of the ten races that exhibited RPV, Latinos prevailed in 70% (7/10) of them. Indeed, Latinos prevailed at a higher rate than Blacks (4/8) and Anglos (3/9).

It is important to note the coalition formation at the local level. Blacks and Anglos preferred the same candidate in six RPV contests. In contrast, only one of the RPV contests saw Blacks and Latinos prefer the same candidate.

Bryant J. Moy

Bryant J. Moy, Ph.D.

Date: February 10, 2023

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Bryant J. Moy

CONTACT INFORMATION	Wilf Family Department of Politics 19 W. 4th Street (Room 223) New York, NY, 10012	501-952-8756 bryant.moy@nyu.edu www.bryantjmoy.com
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EMPLOYMENT	New York University , New York City, NY Assistant Professor, Department of Politics , Starting September 2024 Data Science Faculty Fellow, Center for Data Science , July 2022 - Visiting Assistant Professor, Department of Politics , July 2022 -
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EDUCATION	Washington University in St. Louis , St. Louis, MO Ph.D., Political Science, 2022 <ul style="list-style-type: none">Chair: Jacob Montgomery<i>Three Essays on Local Government: Responsiveness, Transparency, and Discriminatory Ordinances</i> M.A., Political Science, 2018 Arkansas State University , Jonesboro, AR M.A., Political Science, 2016 <ul style="list-style-type: none">Thesis: <i>Economic Freedom's Clash with Participatory Democracy</i>Committee: (Chair) Rollin Tusaleam, Jacob Ausderan, and Hans Hacker B.A., Political Science, May 2014 <ul style="list-style-type: none"><i>Cum Laude</i>
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RESEARCH INTERESTS	Substantive: American Politics, Local/Urban Politics, Race & Ethnic Politics Methodological: Causal Inference, Experimental Design, Computational Methods
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PUBLICATIONS	<ol style="list-style-type: none">3. Moy, Bryant J. 2021. "Can Social Pressure Induce Responsiveness? An Open Records Field Experiment with Mayoral Offices." <i>Journal of Experimental Political Science</i>, 8(2), 117-127. doi: 10.1017/XPS.2020.222. Gimpel, Jim, Nathan Lovin, Bryant Moy, and Andrew Reeves. 2020. "The Urban-Rural Gulf in American Political Behavior" <i>Political Behavior</i>, 42, 1343-1368. doi: 10.1007/s11109-020-09601-w1. Reeves, Andrew, David Miller, and Bryant J. Moy. 2018. "U.S. Presidential Campaigns and Their Impact." <i>Oxford Bibliographies in Political Science</i>, ed. by L. S. Maisel. Oxford University Press. doi: 10.1093/OBO/9780199756223-0156
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OTHER PUBLICATIONS	<ol style="list-style-type: none">1. O'Brochta, William and Bryant J. Moy. 2021. "Department-Level Graduate Student Peer Teaching Workshops." <i>The Political Science Educator</i>. 25(1) 6-8.
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WORKING PAPERS

3. **Moy, Bryant J.** “Responsiveness in the Patchwork of Local Government”
 - Won Best Poster Award (Applications). PolMeth XXXVIII. July 2021.
2. **Moy, Bryant J.** “Racial Threat and Policy Adoption in Local Government: The Emergence of Criminal Activity Nuisance Ordinances in Ohio Municipalities”
1. Dasanaïke, Noah, Jacob Montgomery, **Bryant J. Moy**, and Santiago Olivella. “Small-area estimation using Gaussian Process grouped IRT regression and post-stratification”

INVITED TALKS

3. “Racial Threat and the Emergence of Discriminatory Ordinances.” NYU Wagner Research Seminar, Oct 20, 2022
2. “Responsiveness in the Patchwork of Local Government.” Junior Americanist Workshop Series (JAWS), December 2021
1. “Responsiveness in the Patchwork of Local Government.” The George Rabinowitz Seminar Series, American Politics Research Group. University of North Carolina - Chapel Hill. Oct. 29, 2021.

CONFERENCE PRESENTATION

13. **Moy, Bryant J.** “Racial Threat and the Emergence of Criminal Activity Nuisance Ordinances” Local Political Economy Pre-Conference (LPEC), September 2022
12. **Moy, Bryant J.** “Racial Threat and the Emergence of Criminal Activity Nuisance Ordinances” American Political Science Association, September 2022
11. **Moy, Bryant J.** “Racial Threat and the Emergence of Criminal Activity Nuisance Ordinances” PolMeth XXXIX, July 2022 (Poster)
10. **Moy, Bryant J.** “Racial Threat and the Emergence of Criminal Activity Nuisance Ordinances” Midwest Political Science Association, April 2022
9. **Moy, Bryant J.** “Responsiveness in the Patchwork of Local Government” Southern Political Science Association, January 14, 2022.
8. **Moy, Bryant J.** “The Dynamic City: Responsiveness in Local Government?” American Political Science Association, Oct 1, 2021. (iPoster)
7. **Moy, Bryant J.** “Responsiveness in a Fragmented Local Politics” PolMeth XXXVIII. July 13-16, 2021. (Poster)
6. Dasanaïke, Noah, Jacob Montgomery, **Bryant J. Moy**, and Santiago Olivella. “Small-area estimation using Gaussian Process grouped IRT regression and post-stratification” St. Louis Area Methods Meeting (SLAMM) May 7, 2021.
5. **Moy, Bryant J.** “The Limited City: Does Dynamic Responsiveness Exist in Local Government?” Midwest Political Science Association, April 17, 2021.
4. **Moy, Bryant J.** “Can Social Pressure Induce Responsiveness? An Open Records Field Experiment with Mayoral Offices.” (Cancelled - COVID) Midwest Political Science Association, 2020.
3. Rickert, Patrick, Nicholas Waterbury, and **Bryant J. Moy**. “Changing Principals: Committee Chair Effectiveness in a Partisan Congress” American Political Science Association. Washington, DC. August 29 - September 1, 2019 (Poster)

2. Gimpel, Jim, Nathan Lovin, **Bryant J. Moy**, and Andrew Reeves. "The Urban-Rural Gulf in American Political Behavior" Midwest Political Science Association, Chicago, IL. April 5 - 8, 2018
1. Hacker, Hans J., Lisa Bohn, and **Bryant J. Moy**. "A Grave Responsibility: Teaching Social Justice through an Interdisciplinary, Curricular/Extra-Curricular, Collaborative Experience." Southwestern Social Science Association. April 2015.

AWARDS, FELLOWSHIPS, GRANTS	Award — American Political Science Association (Urban and Local Politics Section)	
	• Susan Clarke Young Scholars Award	2022
	Award — Society for Political Methodology	
	• Best Poster Award (Applications)	July 2021
	Fellowship — Washington University in St. Louis	
	• Graduate Fellowship	Fall 2016 - 2022
	• The Otto E. Gansow Memorial Scholarship	Fall 2017
	Fellowship — Institute for Humane Studies	
	• Summer Graduate Research Fellow \$6,000	Summer 2022
	• Summer Graduate Research Fellow \$5,000	Summer 2021
	Fellowship — Mercatus Center	
	• Bastiat Fellowship \$5,000	2021-2022
	• Don Lavoie Fellowship \$1,250	Spring 2021
	Travel Awards — Washington University in St. Louis	
	• Travel Grant, Department of Political Science \$200	Spring 2017
TEACHING EXPERIENCE	Grants/Awards — Arkansas State University	
	• Travel Grant, Department of Political Science \$500	Spring 2015
	• Travel Assistance Award, Graduate School, \$400	Spring 2015
	• Outstanding M.A. Student Award	May 2016
	Data Science Faculty Fellow	Fall 2022
	DS-UA 201: Causal Inference	
	New York University	
	Trainer	Fall 2019 - Fall 2020
	SQL, Relational Databases, and Voter Files	
	Washington University in St. Louis	
	Instructor	Summer 2019
	Introduction to American Politics	
	Student Evaluation Mean 4.83 (out of 5)	
	Washington University in St. Louis	
	Instructor	Spring 2015
TEACHING ASSISTANT	POSC 2103 - Introduction to United States Government	
	Student Evaluation Mean 3.56 (out of 4)	
	Arkansas State University	
	<i>Teaching Assistant</i>	
	• Causal Inference: Panel Data - <i>Short Course</i> (Instructor: Yiqing Xu)	Summer 2021
	• Business of Elections (Instructor: Andrew Reeves and Steve Malter)	Fall 2020
	• Privacy in the Digital Age (Instructor: Sunita Parikh)	Spring 2020
	• Research Design (Instructor: Matthew Gabel)	Fall 2019
	• Health Politics (Instructor: Darl Lewis)	Spring 2019
	• Introduction to American Politics (Instructor: Andrew Reeves)	Fall 2017, 2018

PROFESSIONAL EXPERIENCE	<i>Data Analyst</i> <ul style="list-style-type: none"> • Jon Ossoff for U.S. Senate 	2020-2021
SERVICE	<ul style="list-style-type: none"> • Reviewer: <i>American Political Science Review</i>, <i>American Politics Research</i>, <i>Journal of Politics</i>, <i>Political Behavior</i>, <i>Political Research Quarterly</i> • Dean’s Student Advisory (Infrastructure) Committee, College of Humanities and Social Science, Arkansas State University • <i>Assistant Coach</i> to the Arkansas State Moot Court Team • <i>Organizer</i> Political Science Department Film Series. “<i>Trading Places</i>: In a socioeconomic and race perspective” 	Fall 2015 Fall 2014 - Spring 2016 Spring 2014
TECHNICAL SKILLS	R, SQL, Stata, L ^A T _E X, Qualtrics, Python	Updated: December 19, 2022

Racially Polarized Voting in Miami, Florida

Bryant J. Moy, PhD

June 12, 2023

Introduction and Scope of Work

My name is Bryant J. Moy, Ph.D., and I am a faculty fellow in the Center for Data Science and a Visiting Assistant Professor in the Wilf Family Department of Politics at New York University. My qualifications were further described in my initial report dated February 10, 2023.

I have been asked to analyze two proposed maps and provide my expert opinion on whether Black voters could elect their preferred candidates in the newly constituted District 5. I was provided a geolocated voter file and two shape files containing the geographic boundaries of newly constituted District 5.

In this report, I analyze the performance of the Black-preferred candidate in six recent contests from 2022. Next, I re-analyze five contests from 2020 where I previously showed evidence of racial polarization. I discuss how the newly proposed maps make it easier for Black voters to translate their preferences to higher vote totals for their preferred candidate.

Summary of Findings

- Black voters in Miami District 5 cohesively support a single candidate in the six recent elections: Senate, Governor, County Judge Group 5, Chief Financial Officer, Commissioner of Agriculture, and Attorney General. Moreover, non-Hispanic white voters' support for the Black-preferred candidate is under 50% in all but one of the analyzed contests.
- In the six recent elections, the Black-preferred candidate received the vast majority of the top two-candidate vote share across both newly proposed districts.
- In the re-analysis of five previously polarized contests in 2020, I find that the Black-preferred candidate would prevail in either of the proposed districts. Moreover, it would be easier for Black voters to translate their preferences into a higher vote share for their preferred candidate in the two proposed districts than in the currently constituted one.

1 Black-Preferred Candidates in Recent Elections

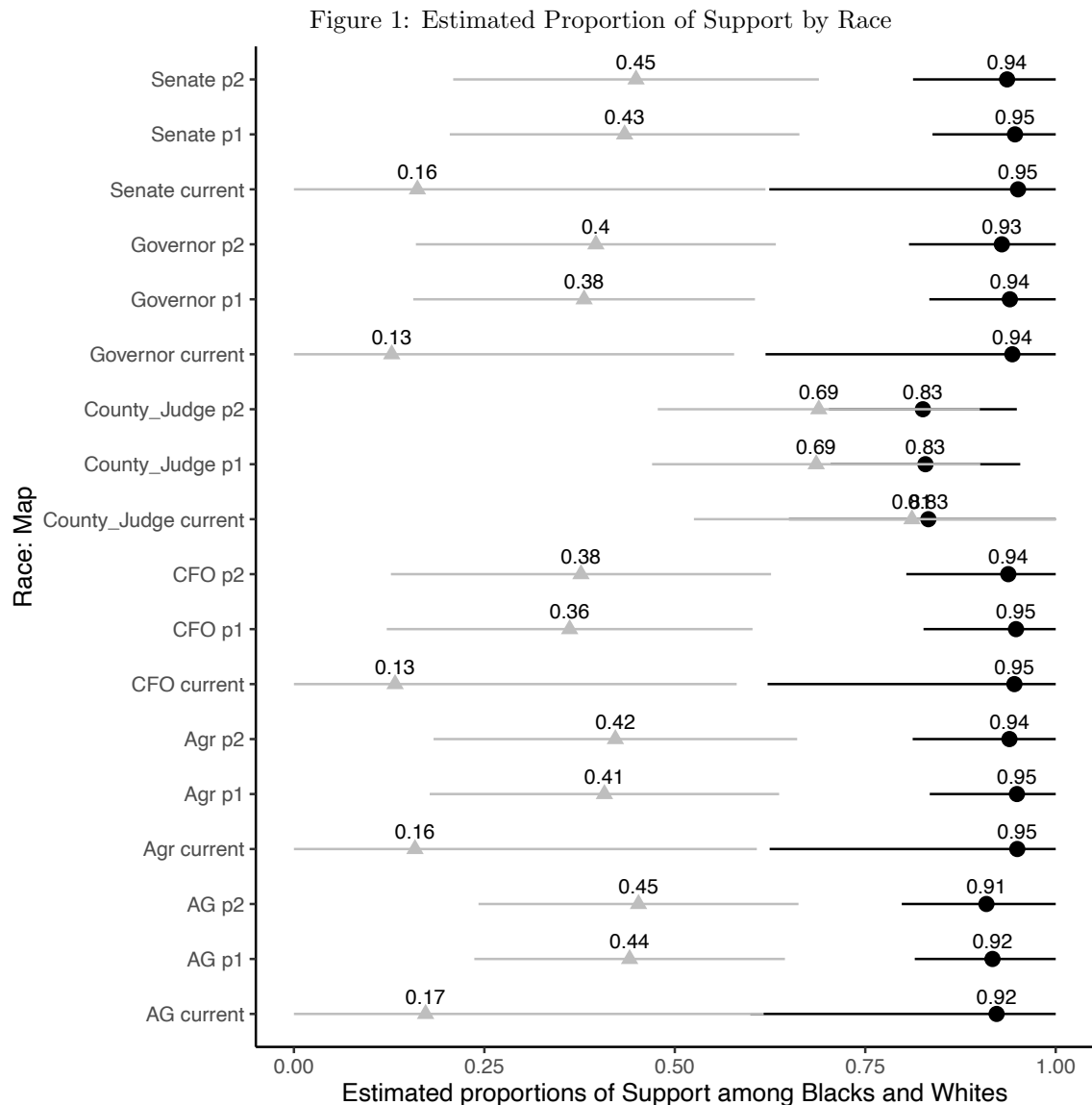
In this section, I estimate the extent to which Black voters cohesively support a single candidate and whether non-Hispanic whites support the Black-preferred candidate. Furthermore, using precinct-level election results, I provide evidence of how the Black-preferred candidate would have performed under the various District 5 maps. In Table 1, I provide a list of six recently held contests in 2022. I indicate the ethnicity of the candidate in parentheses: "B" represents Black, "W" represents non-Hispanic white, and "H" represents Hispanic of any race.

Table 1: List of Elections Analyzed

Race	Black-Preferred Candidate	Non-Black-Preferred Candidate
US Senate	Demings (B)	Rubio (H)
Governor	Crist (W)	DeSantis (W)
Attorney General	Ayala (B)	Moody (W)
Chief Financial Officer	Hattersley (W)	Patronis (W)
Commissioner of Agriculture	Blemur (B)	Simpson (W)
County Judge 5	Seraphin (B)	Diaz de la Portilla (H)

1.1 Estimating Support for the Black-Preferred Candidate By Race

I analyze the extent to which Blacks and whites support different candidates. As shown in Figure 1, Black voters cohesively support a single candidate. Indeed, Black voters support their preferred candidate in rates higher than 80% in all elections analyzed. Non-Hispanic white support for the Black-preferred candidate is below 50% in all contests but County Judge Group 5.



1.2 Performance of Black-Preferred Candidate in Recent Elections

Using precinct-level results of six elections held in 2022, I aggregate results to determine how many votes the Black-preferred candidate would have received within the boundaries of the two newly constituted districts (See Table 2). The two-candidate vote shares were similar across proposed districts.¹ Yet, the Black-preferred candidate would have prevailed in all contests analyzed at the district-level.

Table 2: Black-Preferred Candidate Performance in Recent Election

Race	Map	Vote Total ²	Black-Pref. #	Black-Pref. %	Non-Black-Pref. #	Non-Black-Pref. %
County Judge Grp 5	Current	6473	5046	77.95%	1427	22%
County Judge Grp 5	1	6567	5124	78%	1443	22%
County Judge Grp 5	2	6698	5220	78%	1478	22%
US Senate	Current	14370	11741	81.7%	2629	18.3%
US Senate	1	14483	11784	81.36%	2699	18.6%
US Senate	2	14859	12047	81%	2812	18.9%
Governor	Current	14392	11523	80%	2869	20%
Governor	1	14500	11555	80%	2945	20%
Governor	2	14875	11812	79.4%	3063	20.5%
Attorney General	Current	14300	11424	80%	2876	20%
Attorney General	1	14418	11462	79.5%	2956	20.5%
Attorney General	2	14793	11730	79.3%	3063	20.7%
CFO	Current	14200	11470	80.8%	2730	19.2%
CFO	1	14324	11505	80.3%	2819	19.7%
CFO	2	14696	11764	80%	2932	20%
Comm. of Agriculture	Current	14273	11689	81.9%	2584	22.1%
Comm. of Agriculture	1	14396	11724	81.4%	2672	18.6%
Comm. of Agriculture	2	14766	11986	81.2%	2780	18.8%

2 Black-Preferred Candidate Performance in Previously Racially Polarized Elections

Table 3: Black-Preferred Candidate Performance in Previous RPV Elections

Race	Map	Vote #	Black-Pref. #	Black-Pref. %	Non-Black-Pref. #	Non-Black-Pref. %
President	Current	30418	25648	84.3%	4770	15.7%
President	1	34422	28462	82.7%	5960	17.3%
President	2	35032	28935	82.6%	6097	17.4%
County Mayor	Current	26889	22159	82.4%	4730	17.6%
County Mayor	1	30509	24845	81.4%	5664	18.6%
County Mayor	2	31059	25262	81.3%	5797	18.6%
County Judge Grp 9	Current	10335	6933	67%	3402	32.9%
County Judge Grp 9	1	11686	7631	65.3%	4055	34.7%
County Judge Grp 9	2	11867	7744	65.2%	4123	34.7%
Circuit Judge Group 57	Current	10654	7380	69%	3274	30.7%
Circuit Judge Group 57	1	12016	8103	67.4%	3913	32.6%
Circuit Judge Group 57	2	12200	8227	67.4%	3973	32.6%
Circuit Judge Group 67	Current	10407	6079	58.4%	4328	41.6%
Circuit Judge Group 67	1	11779	6646	56.4%	5133	43.6%
Circuit Judge Group 67	2	11958	6751	56.4%	5207	43.5%

In this section, I re-analyze five 2020 contests that showed signs of racial polarization in my previous report: President, County Mayor, County Judge Group 9, Circuit Judge Group 57, and Circuit Judge Group

1. I use the top two candidate vote totals to examine the contest's Black-preferred and non-Black-preferred candidates.

67. In Table 3, I aggregate the official election results for each district and show how many votes the Black-preferred candidate would have received under each map. Across all contests, the Black-preferred candidate would have received the majority of the votes in District 5.

Figures 2 - 6 depicts the relationship between the Black share of the electorate and the share that the Black-preferred candidate received. Each dot represents a precinct and corresponds to the share of Black registered voters and the two-candidate vote share in that precinct. I report the correlation coefficient in the top left of each figure. These correlation coefficients are bounded from -1 to +1. Numbers closer to 1 indicate that Black voters are able to translate their preferences into their preferred candidate's vote share.

As we see in the figures, Black voters can better translate their preferences into higher vote shares in the two proposed districts than in the current District 5. For all contests, the correlation coefficient is larger and closer to one in the two proposed districts.

Figure 2: Presidential Election

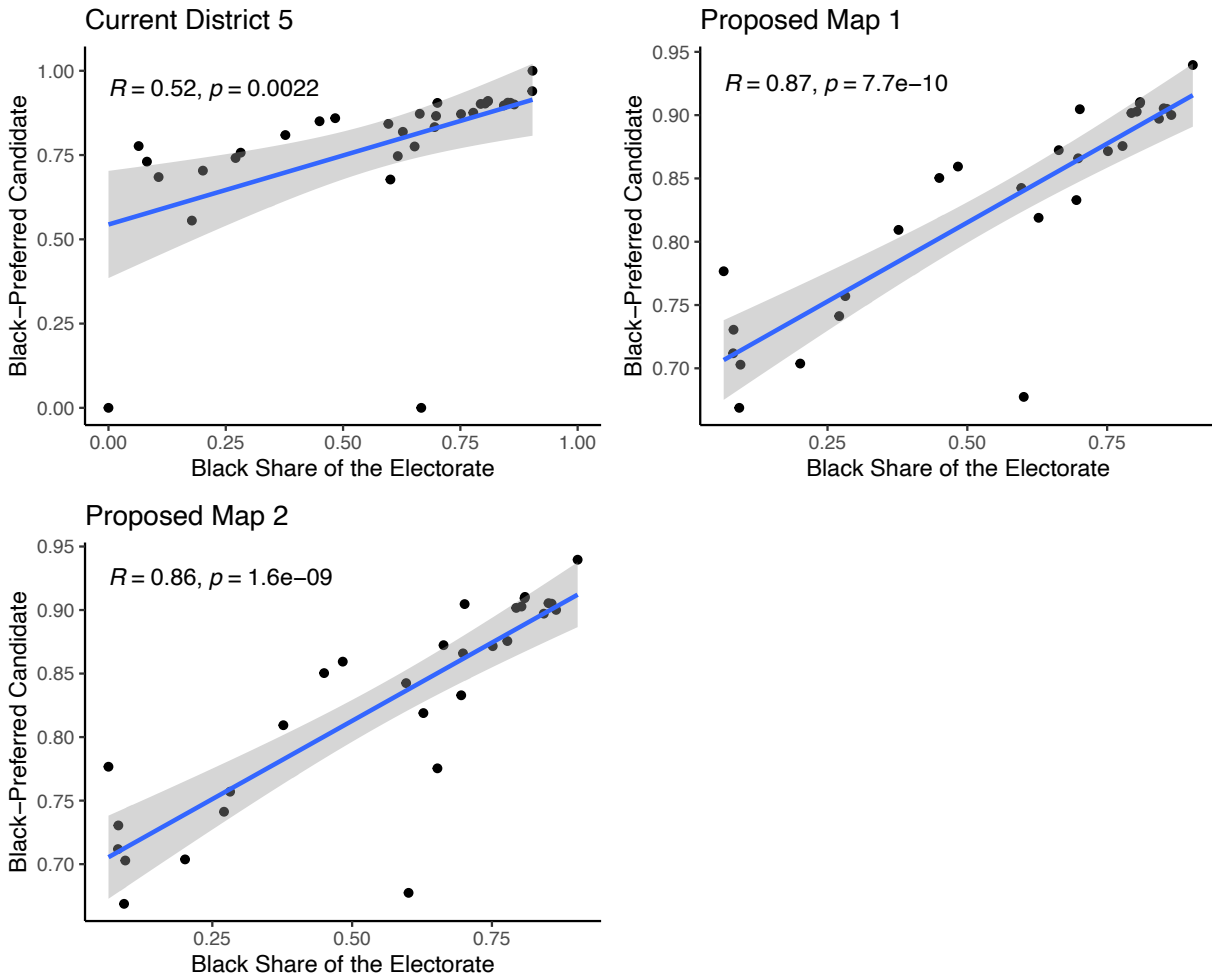


Figure 3: County Mayor

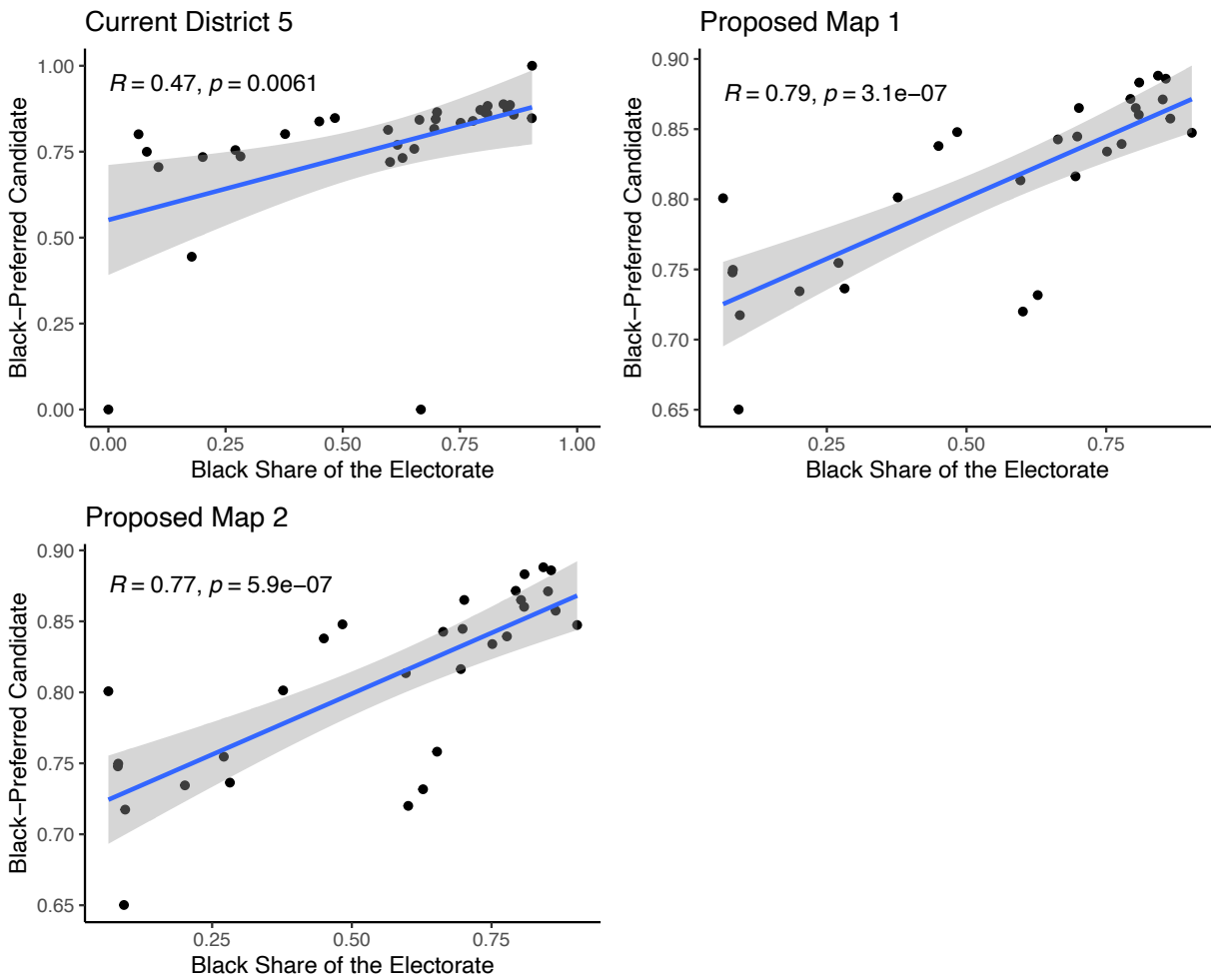


Figure 4: County Judge Group 9

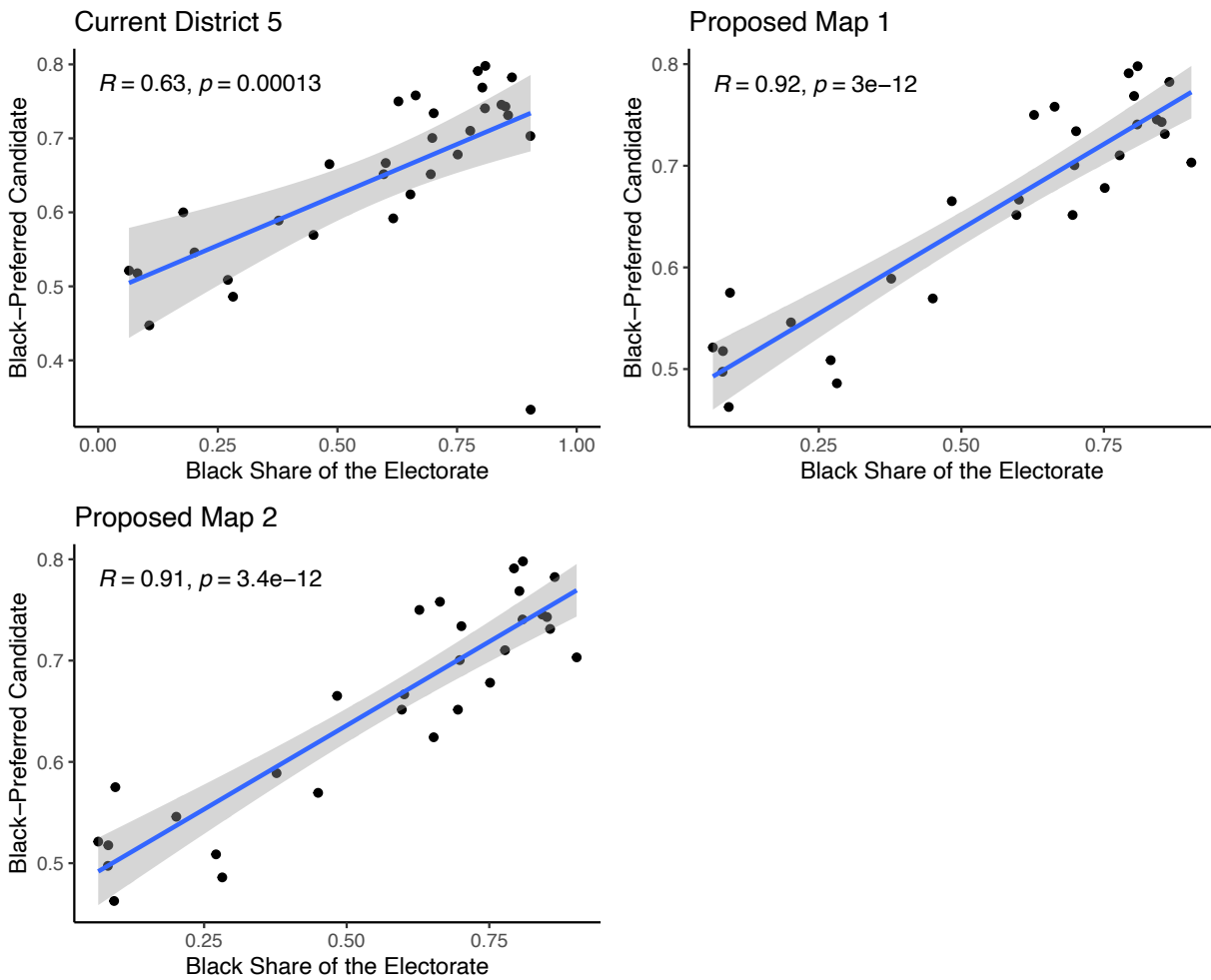


Figure 5: Circuit Judge Group 57

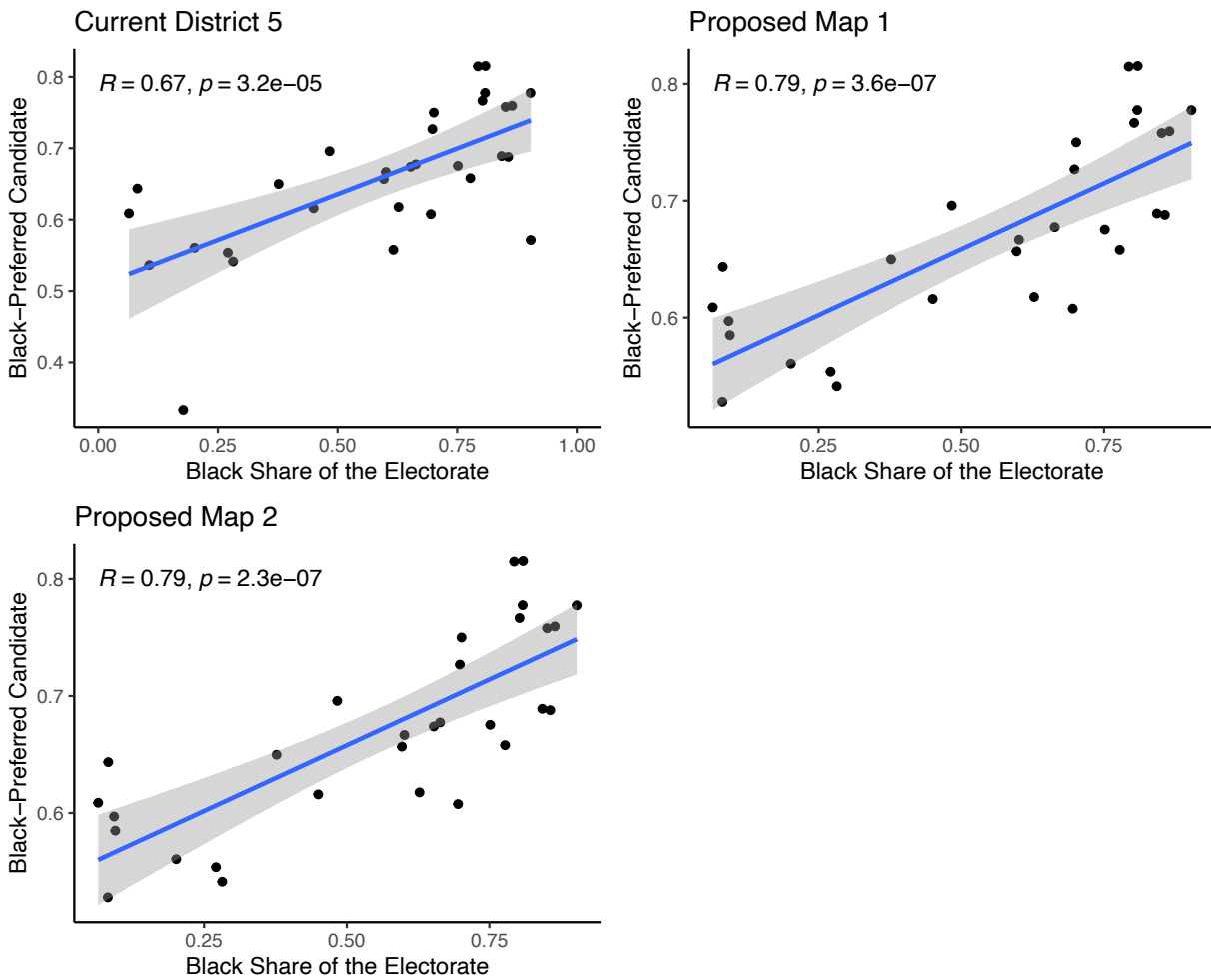
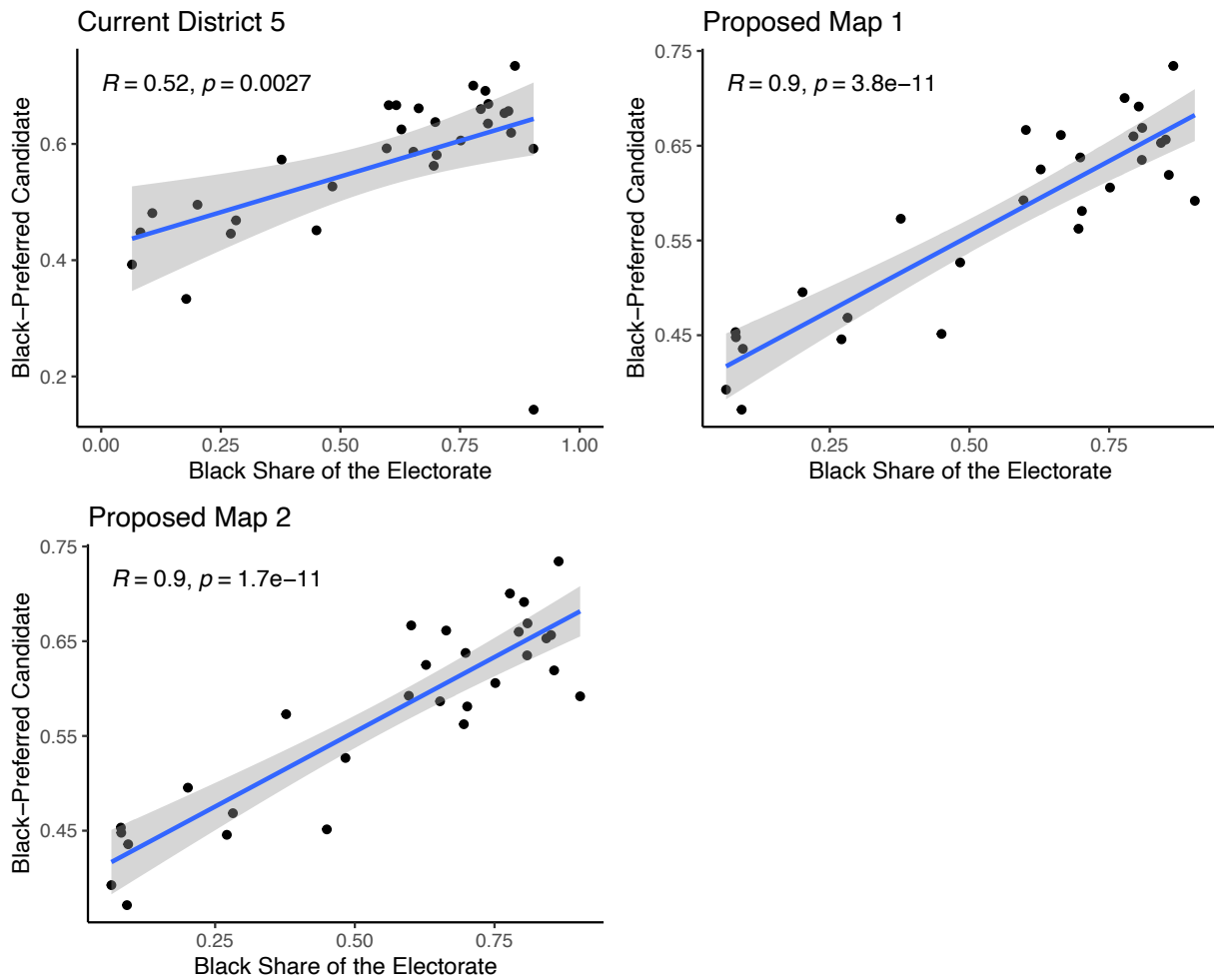
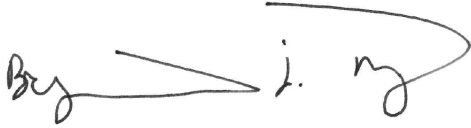


Figure 6: Circuit Judge 67



Summary

In this report, I analyzed two newly proposed maps for District 5. I analyzed six recent elections and found that Black support in this district is cohesive. Moreover, in those elections, the Black-preferred candidate will receive the majority of the votes in the newly proposed districts. Lastly, I re-analyze five contests that previously showed evidence of racial polarization. The Black-preferred candidate would prevail in either of the two proposed districts. More importantly, Black voters can better translate their numbers into higher vote shares for their preferred candidate in the two proposed districts.

A handwritten signature in black ink, appearing to read "Bryant J. Moy". The signature is fluid and cursive, with a large loop at the end.

Bryant J. Moy, Ph.D.
Date: June 12, 2023

Supplementary Report: Racially Polarized Voting in Miami, Florida

Bryant J. Moy, PhD

July 1, 2023

Introduction and Scope of Work

My name is Bryant J. Moy, Ph.D., and I am a faculty fellow in the Center for Data Science and a Visiting Assistant Professor in the Wilf Family Department of Politics at New York University. My qualifications were further described in my initial report dated February 10, 2023.

I have been asked to analyze two proposed maps and provide my expert opinion on whether Black voters could elect their preferred candidates in the newly constituted District 5. The first is Plaintiff's 4 ("P4") and the second is the City of Miami's proposed map ("City"). I was provided a geolocated voter file and two shape files containing the geographic boundaries of newly constituted District 5.

In this report, I first provide racial demographic data of registered voters under the current map, the P4 plan, and the city's proposal. Second, I analyze the performance of the Black-preferred candidate in six recent contests from 2022. Lastly, I re-analyze five contests from 2020 where I previously showed evidence of racial polarization. I discuss how the newly proposed maps make it easier for Black voters to translate their preferences to higher vote totals for their preferred candidate.

Summary of Findings

- Black voters in the City of Miami cohesively support a single candidate in the six recent elections: Senate, Governor, County Judge Group 5, Chief Financial Officer, Commissioner of Agriculture, and Attorney General. Moreover, non-Black voters' support for the Black-preferred candidate is under 50% in all contests. I find patterns of racially polarized voting in these contests.
- In the six recent elections, the Black-preferred candidate received the vast majority of the top two-candidate vote across both newly proposed districts. Moreover, the Black-preferred candidate would have received more votes under the P4 plan than both the enjoined map and the city's proposed plan.
- In the re-analysis of five previously polarized contests in 2020, I find that the Black-preferred candidate would prevail under either of the proposed districts. More importantly, the Black-preferred candidates under P4 have a marginally higher likelihood of prevailing given the larger makeup of the district regardless of the Black share of the precinct.

1 Racial Demographics of Registered Voters in District 5

There are 220,103 registered voters in Miami.¹ In Table 1 I show the racial composition of registered voters under each map's District 5. The City of Miami has a majority-Hispanic electorate with Anglos (non-Hispanic whites) constituting 21% of the electorate and Blacks constituting 17% of the electorate.

Table 1: District 5 Racial Composition: Registered Voters

Race	Enjoined	Enjoined %	P4	P4 %	City	City %
Anglo	6,813	14.0%	7,550	15.0%	6,782	14.0%
Black	28,054	57.6%	28,156	55.5%	27,793	57.0%
Hispanic	13,166	27.0%	14,324	28.0%	13,338	27.0%
AAPI/American Indian	661	1.3%	703	1.4%	713	1.5%
Total	48,694	-	50,733	-	48,626	-

2 Black-Preferred Candidates in Recent Elections

In this section, I analyze six recently held contests in 2022 to assess the extent to which they show patterns of racially polarized voting: U.S. Senate, Governor, Attorney General, Chief Financial Officer, Commissioner of Agriculture, and County Judge Group 5. I estimate the extent to which Black voters cohesively support a single candidate using bivariate scatterplots. The x-axis corresponds with the Black Share of the Total Citizen Voting Age Population for 2020, while the y-axis corresponds with the Black preferred candidate's vote share within Miami precincts.² I draw a linear line of best fit through the cluster of precincts. The positive association means that as the Black share of the Citizen Voting Age Population increases, the Black-preferred candidate receives a higher share of the vote.

For all contests, when the precinct is homogeneously Black, the identified Black-preferred candidate receives overwhelming support. Similarly, when precincts are homogeneously non-Black, the Black-preferred candidate fails to receive the majority of the votes on average. All of the six contests analyzed show signs of racially polarized voting.³

In Table 2, I indicate which individuals are the Black-preferred candidates and include their ethnicity in parentheses: "B" represents Black, "W" represents non-Hispanic white, and "H" represents Hispanic of any race.

Table 2: List of Elections Analyzed

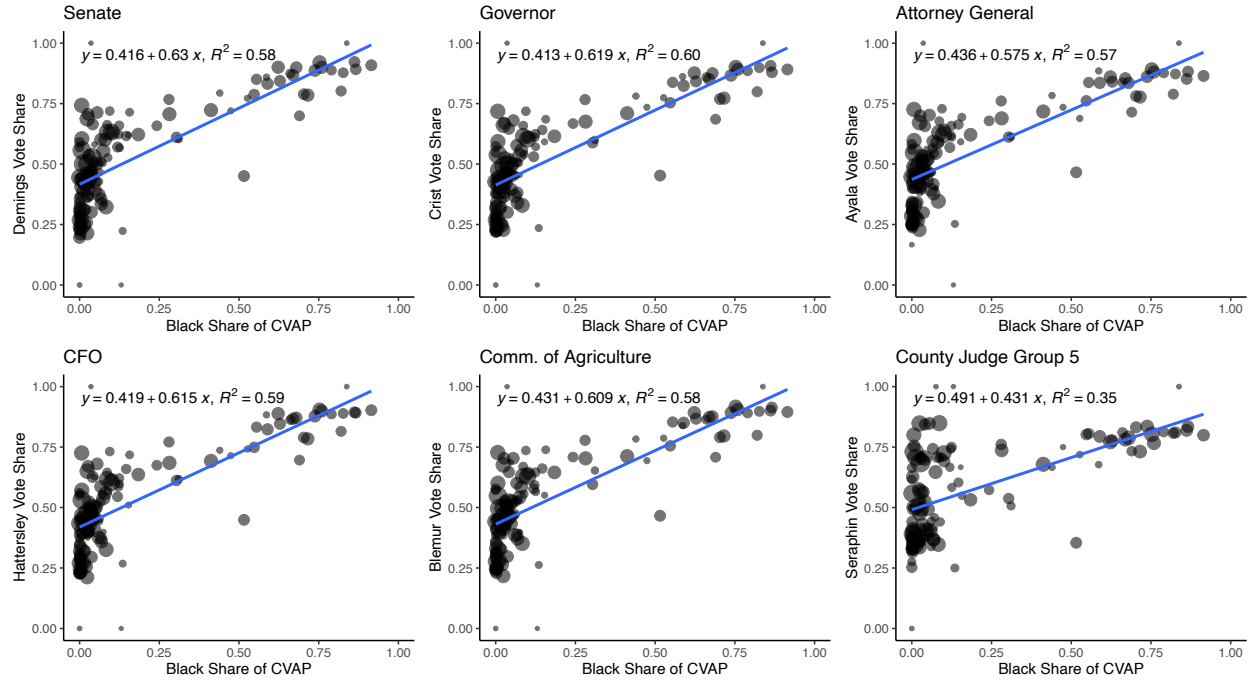
Race	Black-Preferred Candidate	Non-Black-Preferred Candidate
US Senate	Demings (B)	Rubio (H)
Governor	Crist (W)	DeSantis (W)
Attorney General	Ayala (B)	Moody (W)
Chief Financial Officer	Hattersley (W)	Patronis (W)
Commissioner of Agriculture	Blemur (B)	Simpson (W)
County Judge Group 5	Seraphin (B)	Diaz de la Portilla (H)

1. Consistent with the first report, I include Black, Anglo, Hispanic, AAPI/American Indian and exclude voters whose race is recorded as "Other," "Multi-racial," or "Unknown" throughout the analysis. Registered voters recorded as both active and inactive status are included in this analysis.

2. For this analysis, I use the top two candidates only.

3. In 5 of the 6 contests, when the Black share of CVAP is 0, the Black-preferred candidate receives a vote share in the low 40s. In the County Judge Group 5, however, when the Black share of CVAP is 0, the Black-preferred candidate receives 49% of the vote. While still under 50%, there is suggestive evidence that the County Judge Group 5 may show less racial polarization than the other contests.

Figure 1: Black Preferred Candidates in Recent Contests



2.1 Performance of Black-Preferred Candidate in Recent Elections

Using precinct-level results of six elections held in 2022, I aggregate results to determine how many votes the Black-preferred candidate would have received within the boundaries of the two newly constituted districts (See Table 3). The two-candidate vote shares were similar across proposed districts.⁴ The Black-preferred candidate would have prevailed in all contests analyzed at the district-level. According to Table 3, the Black-preferred candidate would receive more votes under the P4 map than both the enjoined and the city's plan.

4. I use the top two candidate vote totals to examine the contest's Black-preferred and non-Black-preferred candidates.

Table 3: Black-Preferred Candidate Performance in Recent Election

Race	Map	Vote Total	Black-Pref. #	Black-Pref. %	Non-Black-Pref. #	Non-Black-Pref. %
County Judge Grp 5	Enjoined	7157	5234	73.1%	1923	26.9%
County Judge Grp 5	P4	7046	5433	77.1%	1613	22.9%
County Judge Grp 5	City	7548	5735	76.0%	1813	24.0%
US Senate	Enjoined	16807	12230	72.8%	4577	27.2%
US Senate	P4	15942	12718	79.8%	3224	20.2%
US Senate	City	17753	13815	77.8%	3938	22.2%
Governor	Enjoined	16849	11989	71.2%	4860	28.8%
Governor	P4	15966	12462	78.1%	3504	21.9%
Governor	City	17782	13530	76.1%	4252	23.9%
Attorney General	Enjoined	16660	11979	71.9%	4681	28.1%
Attorney General	P4	15876	12403	78.1%	3473	21.9%
Attorney General	City	17678	13507	76.4%	4171	23.6%
CFO	Enjoined	16554	11908	71.9%	4646	28.1%
CFO	P4	15762	12418	78.8%	3344	21.2%
CFO	City	17552	13477	76.8%	4075	23.2%
Comm. of Agriculture	Enjoined	16607	12182	73.4%	4425	26.2%
Comm. of Agriculture	P4	15830	12645	79.9%	3185	20.1%
Comm. of Agriculture	City	17608	13743	78.0%	3865	22.0%

3 Black-Preferred Candidate Performance in Previously Racially Polarized Elections

Table 4: Black-Preferred Candidate Performance in Previous RPV Elections

Race	Map	Vote #	Black-Pref. #	Black-Pref. %	Non-Black-Pref. #	Non-Black-Pref. %
President	Enjoined	36848	28308	76.8%	8540	23.2%
President	P4	38379	31312	81.6%	7067	18.4%
President	City	41234	33233	80.6%	8001	19.4%
County Mayor	Enjoined	32852	24968	76.0%	7884	24.0%
County Mayor	P4	34145	27473	80.5%	6672	19.5%
County Mayor	City	36703	29209	79.6%	7494	20.4%
County Judge Grp 9	Enjoined	12043	7281	60.5%	4762	39.5%
County Judge Grp 9	P4	12798	8198	64.1%	4600	35.9%
County Judge Grp 9	City	13325	8443	63.4%	4882	36.6%
Circuit Judge Group 57	Enjoined	12348	7563	61.2%	4785	38.8%
Circuit Judge Group 57	P4	13140	8741	66.5%	4399	33.5%
Circuit Judge Group 57	City	13685	8976	65.6%	4709	34.4%
Circuit Judge Group 67	Enjoined	12189	6362	52.2%	5827	47.8%
Circuit Judge Group 67	P4	12891	7219	56.0%	5672	44.0%
Circuit Judge Group 67	City	13428	7504	55.9%	5924	44.1%

In this section, I re-analyze five 2020 contests that exhibited signs of racial polarization in my previous report: President, County Mayor, County Judge Group 9, Circuit Judge Group 57, and Circuit Judge Group 67. In Table 4, I aggregate the official election results for each district and show how many votes the Black-preferred candidate would have received under each map. Across all contests, the Black-preferred candidate would have received the majority of the votes in District 5.

Figures 2 - 6 depicts the relationship between the Black share of the Citizen Voting Age Population and the share that the Black-preferred candidate received. I report the linear line of best fit and the R^2 in each graph. As we see in the figures, Black voters are able to translate their preferences into high vote shares for their preferred candidate. Furthermore, the P4 plan increases the likelihood that the Black-preferred candidate will prevail over the enjoined map and the plan proposed by the city. Specifically, as shown in the

equation, the intercept is shifted upward which meaning that the Black-preferred candidate is in a better position to prevail given the larger makeup of the district regardless of the Black share of the precinct. Take the County Mayor contest for example. The y-intercept shifts from .648 in enjoined map to .716 to the plaintiff's plan. This shift is even larger compared with the city's plan (.638 to .716).

Figure 2: Presidential Election

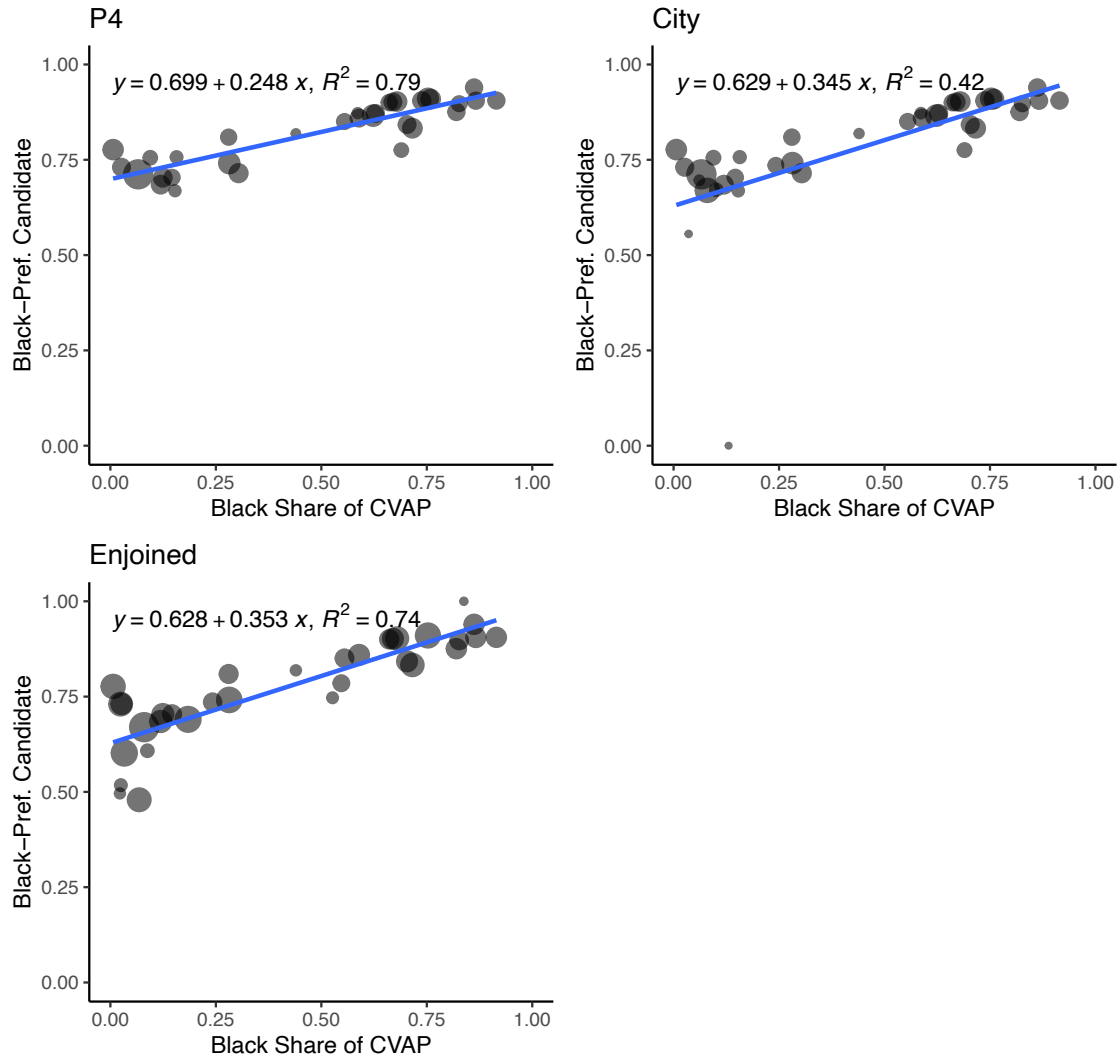


Figure 3: County Mayor

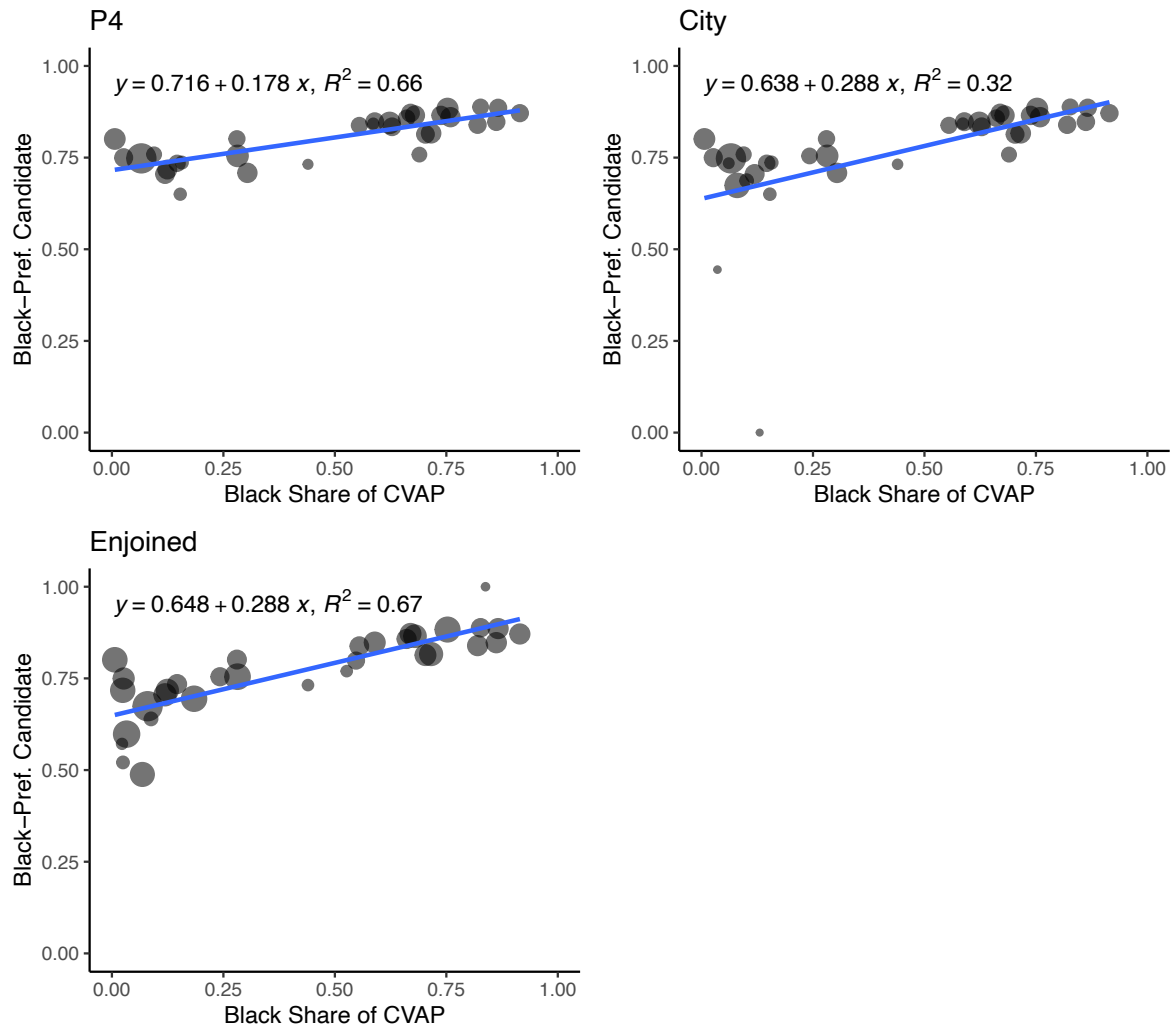


Figure 4: County Judge Group 9

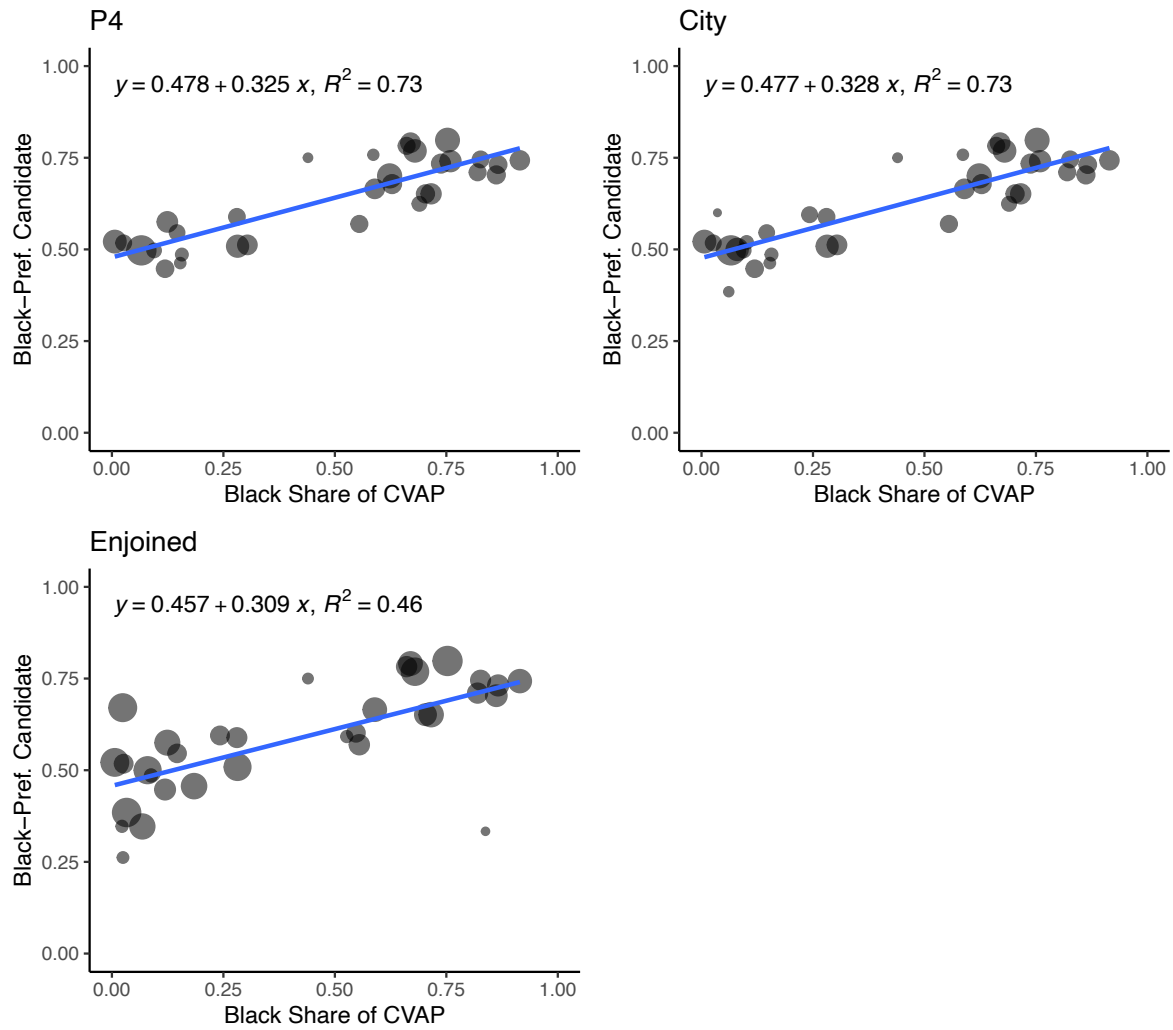


Figure 5: Circuit Judge Group 57

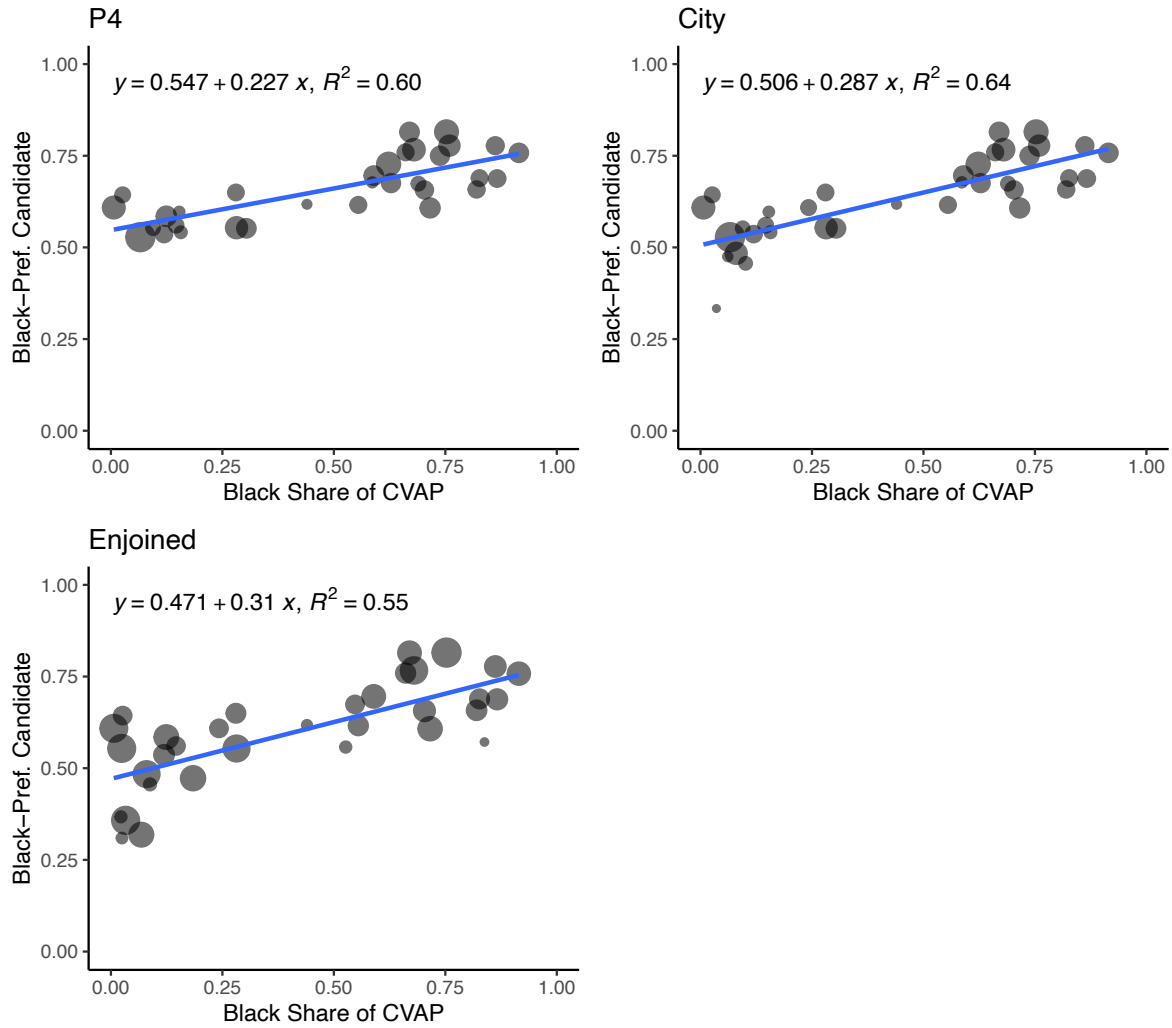
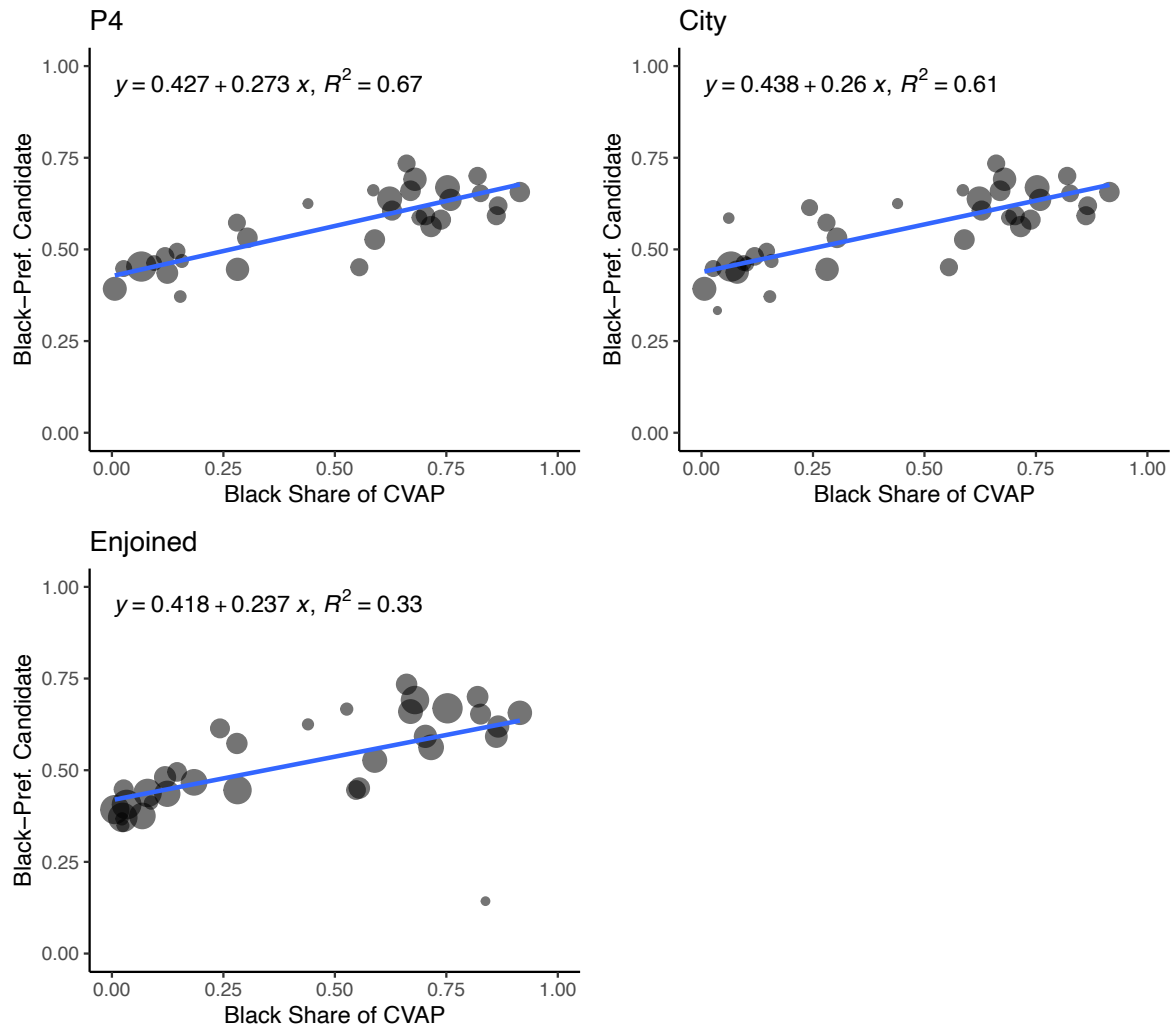
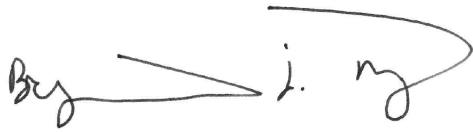


Figure 6: Circuit Judge 67



Summary

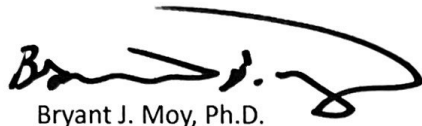
In this report, I analyzed two newly proposed maps for District 5: plaintiff's 4 ("P4") and the city's plan ("City"). I analyzed six recent elections and found that Black support is cohesive for a single candidate and non-Black support for the Black-preferred candidate is under 50%. Moreover, in those elections, the Black-preferred candidate will receive the majority of the votes in the newly proposed districts. Next, I re-analyzed five contests that previously showed evidence of racial polarization. The Black-preferred candidate would prevail in either of the two proposed districts. More importantly, Black voters would have seen their preferred candidate receive a higher vote share under P4 than both the city's plan and the enjoined plan.

A handwritten signature in black ink, appearing to read "Bryant J. Moy". The signature is fluid and cursive, with a long horizontal stroke extending to the left and a large loop at the end.

Bryant J. Moy, Ph.D.
Date: July 1, 2023

Addendum 9/21/2023

I am being compensated for my work on this report at an hourly rate of \$250/hour. No part of my compensation depends on the outcome of this case or on the nature of the opinions that I provide. I have testified as an expert at trial or by deposition in no other cases in the previous four years.

A handwritten signature in black ink, appearing to read 'Bryant J. Moy', with a stylized flourish at the end.

Bryant J. Moy, Ph.D.